



Sex Determination From The Upper End And Length Of The Femur: A Morphometric Study

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ABSTRACT

Identification of sex from skeleton is an important demographic assessment in medicolegal investigation. Determination of sex is relatively easy if the entire skeleton is available for examination. Even when skull and pelvis, the most reliable bones for sex determination are available not more than 98% of accuracy can be achieved in identifying the sex. Often in medicolegal cases it is expected to determine sex from isolated long bones or their fragments from the crime site in order to establish a possible identity.

Assessment of sex from femoral dimensions has been tried before in several populations. Studies conducted so far have demonstrated that populations differ from one another in size and proportion. The anatomical knowledge of different dimensions of femur specially head and neck of the femur is very essential in anthropological and medicolegal practice for sex determination and as well as to radiologists, rheumatologists and orthopedic surgeons for diagnosis and planning of fragment.

This is an observational descriptive study carried out in the Department of Anatomy. The present study was performed on one hundred (50-Male & 50-Female) left sided fully ossified human femur bones collected from the Department of Anatomy and from the medical students. Morphometric study was carried on all samples by direct physical method. There was statistically significant difference found in the diameter of the head and neck and length of the femur bones between male and female bones.

KEY WORDS: Human femur, Head and Neck diameter, Length of femur, Sexual variations.

INTRODUCTION

The femur is the longest and strongest bone of the human body. Morphologically it is a typical long bone. The upper part of the femur forms the hip joint with the pelvis and the lower part of the femur forms the knee joint with the tibia. It forms the skeleton of the thigh, bears body weight in erect posture, form blood cells and acts as store house for calcium and phosphate.

The anatomical knowledge of human sex from skeletal part is of particular importance in forensic osteology and it relies heavily on the up to date techniques in order to provide accurate information to medicolegal system. With time the assessment has a shift from visual analysis to anthropometric measurements which when processed through modern statistical techniques

has made sex determination more objective. Sex determination is relatively easy if the entire skeleton is available, pelvis and skull are more reliable bones for this purpose⁽¹⁾.

Sex can be determined with 100% accuracy when entire skeleton is available. As the femur is composed of hard tissue, they are the best preserved part of skeleton after death and in many times they are the only available parts for forensic examination⁽²⁾. In clinical practice dislocation of the hip joint and fracture neck of the femur is very common. The knowledge about different diameter of the head and neck of the femur is essential in orthopedic surgery in prosthesis and nail application and for radiological practice in identifying pathology of bone and also for determining age. The femoral normative values are also essential to plastic and reconstructive surgeons in their reconstruction and medical rehabilitation.

Morphological and statistical analysis of femoral anthropometry among different population reveals a great amount of variation. Femoral anthropometric measurements from different countries are likely to be affected by racial variations in diet, heredity, climate and other geographical factors related to life style⁽³⁾. India is a vast country with a number of different populations but only a few studies pertaining to femur are available from this part of the world. Therefore, in the present study, femur was studied for sex determination in the population of North Maharashtra and Marathwada region.

MATERIAL AND METHODS

The present study was conducted on 100 femora of left side (50-male & 50-female) in the Department of Anatomy. Bones were collected from the Department of Anatomy as well as from the 1st and 2nd year medical students. The reason for choosing left side for femur is based on the reported observation that left lower limb is functionally dominant in majority of human beings⁽⁴⁾. All these bones belonged to people from North Maharashtra and Marathwada region.

Five measurements were taken. These measurements were taken using the digital vernier caliper and osteometric board. The following measurements were taken

1. Maximum vertical diameter of head
2. Maximum transverse diameter of head
3. Minimum vertical diameter of neck
4. Minimum transverse diameter of neck
5. Maximum length – from the head to the medial condyle measured with an osteometric board.

All the measurements were recorded in -mm.

Measurements of vertical diameter of head of the femur

The fixed jaw of the digital slide caliper was placed on the superior surface and the sliding jaw was placed on the inferior surface of the head of the femur, and three readings were taken between different points. The maximum reading was selected and recorded as vertical diameter of head of the femur.



Fig.1. Measurement of vertical diameter of head (VDH) of the femur

Measurements of transverse diameter of head of the femur

The fixed jaw of the digital slide caliper was placed on the posterior surface and the sliding jaw was placed on the anterior surface of the head of the femur, and three readings were taken between different points. The maximum antero-posterior reading was selected and recorded as transverse diameter of head of the femur.



Fig.1. Measurement of transverse diameter of head (TDH) of the femur

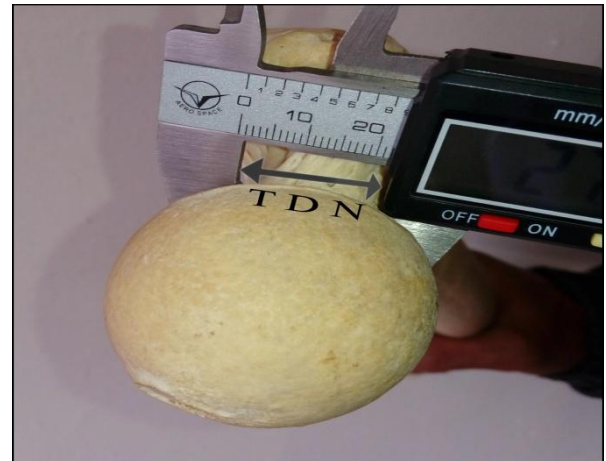


Fig.4. Measurement of transverse diameter of neck (TDN) of the femur

Measurements of vertical diameter of neck of the femur

The fixed jaw of the digital slide caliper was placed on the superior surface and the sliding jaw was placed on the inferior surface of the neck of the femur, and three readings were taken between different points. The minimum reading was selected and recorded as vertical diameter of head of the femur.

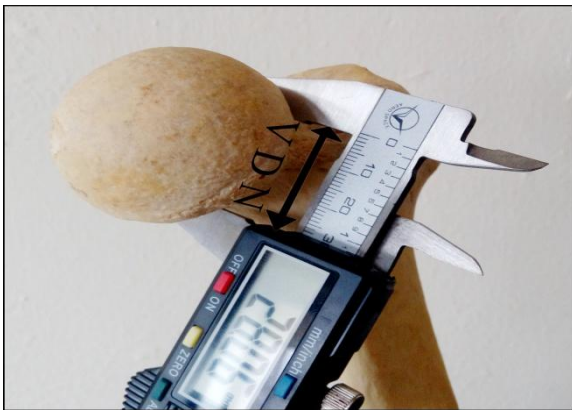


Fig.3. Measurement of vertical diameter of neck (VDN) of the femur

Measurements of transverse diameter of neck of the femur

The fixed jaw of the digital slide caliper was placed on the posterior surface and the sliding jaw was placed on the anterior surface of the neck of the femur, and three readings were taken between different points. The minimum antero-posterior reading was selected and recorded as transverse diameter of neck of the femur.

OBSERVATIONS & RESULTS

In the present study, the mean (\pm SD) value of vertical diameter of head (VDH) of the femur bones of left side were 46.03 mm in male and 41.84 mm in female. There was a significant difference in between male and female bones in vertical diameter of head.

The mean (\pm SD) value of transverse diameter of head (TDH) of the femur bones of left side were 44.93 mm in male and 40.58 mm in female. There was a significant difference in between male and female bones in transverse diameter of head as shown in table no.1.

The mean (\pm SD) value of vertical diameter of neck (VDN) of the femur bones of left side were 31.95 mm in male and 29.54 mm in female. There was a significant difference in between male and female bones in vertical diameter of neck.

The mean (\pm SD) value of transverse diameter of neck (TDN) of the femur bones of left side were 25.98 mm in male and 24.79 mm in female. There was a significant difference in between male and female bones in transverse diameter of neck as shown in table no 1.

The length of the femoral shaft evaluated in this study showed a mean of 480.8 mm (48.08 cm) in male and 440.4 mm (44.04cm) in female.

Table 1. Vertical and transverse diameter of head and neck & length of the femur in male and female

Sex	Head		Neck		Length (cm)
	Vertical Diameter (VDH) (mm)	Transverse Diameter (TDH) (mm)	Vertical Diameter (VDN) (mm)	Transverse Diameter (TDN) (mm)	
Male	46.03 (40.05 – 46.41)	44.93 (37.95 – 46.50)	31.95 (29.15 – 32.60)	25.98 (21.80 – 26.90)	48.08 (45-51)
Female	41.84 (37.64 – 42.61)	40.58 (36.0 – 42.74)	29.54 (20.05 – 26.00)	24.79 (26.09 – 29.80)	44.04 (40-47)

Demarketing points from the above results calculated that is the measurement above which no female bone can be found and below which no

male femora can be found. So, demarketing points for various parameters found in our studies are shown in table 2.

Table 2. Demarketing points calculated for various parameter in this study

Sex	Demarketing points				
	VDH(mm)	TDN(mm)	VDN(mm)	TDN(mm)	Length(cm)
Male	> 42.61	> 42.74	> 29.80	> 26.00	> 47
Female	< 40.05	< 37.95	< 29.15	< 21.80	< 45

Using demarketing points sex of the bone can be determined. Bones with demarketing points above 42.61 mm (VDH), 42.74 mm (TDH), 29.80 mm (VDN), 26.00 mm (TDN) & 47 cm (Length) can be correctly classified as male bones.

Similarly, bones with demarketing points below 40.05 mm (VDH), 37.95 mm (TDH), 29.15 mm (VDN), 21.80 mm (TDN) & 45cm (Length) can be correctly classified as female bones.

DISCUSSION

Sex determination from long bones or their fragments is often required to establish a possible identity. It is a common experience for the forensic expert to be confronted with poorly preserved or fragmentary bones. Due to tubular structure of long bones, they are often better preserved than other shorter bones. Thus data for long bone measurements will be more useful. In an Indian study from central India maximum diameter of head gave the best accuracy (90.4%)⁽⁴⁾. In the present study also the best accuracy was achieved by maximum diameter of head (83%) when applied singly. This is in contrast with Chinese, Thai, and South African whites where the most dimorphic parameter was epiphyseal breadth⁽⁵⁾. A number of studies have shown that combination of variables give better accuracy for

sex determination. Racial differences have been shown to exist in the dimensions of femoral heads from studies carried out by various authors.

Felts believed that the gross shape of long bones was caused by intrinsic factors, while the specific details were determined by the bone adaptation to the functional environment⁽⁶⁾. The average diameter of the head of the femur is therefore different in different races. Parsons showed that if the vertical diameter of the head of the femur was greater than 48 mm, the bone belonged to a male and when below 44 mm, it indicated a female bone⁽⁷⁾. For the Indian femora, Singh and Singh reported figures above 45.5 mm for a male bone and less than 41.5 mm for a female bone⁽⁸⁾. Hashimoto using the antero-posterior diameter for sex determination reported an average of 46.80 mm for Chinese femora⁽⁹⁾. Studies in Nigerian used both diameters to determine sex employing identification and demarcating points⁽¹⁰⁾. In a black Malawians study it was found that the vertical and transverse femoral head diameters for males were significantly greater than the corresponding values for females. This is an indication that femoral head diameters could be used for sex differentiation among Black Malawians⁽¹¹⁾. The values of male right and left transverse and vertical diameters for Malawians,

though greater than those of females, were, however, relatively lower than those of south eastern. This differentiation could be explained on factors like diet, genetic and climatic conditions.

The mean vertical and transverse diameters of head and neck of the femur and also the length of the femur found in this study were somewhat similar to other studies like North Indian, Central Indian, Gujrat, Thailand ⁽¹²⁾ and Chinese ⁽¹³⁾. The similarity of food habit may predispose to the same growth pattern of femur of these populations. Low values of these dimensions were found in South Indian population, because they are vegetarian and lack protein in their diet. This may be the reason for their low dimension.

CONCLUSION

The present study was an attempt to construct data on different dimension of adult femur and sexual variations in Indian population. The knowledge about different diameter of the head and neck of the femur is essential in orthopedic surgery in prosthesis and nail application and for radiological practice in identifying pathology of bone and also for determining age. Morphometric data of femur might help a doctor or nutritionist for calculating body energy need of a normal individual or to identify malnourished cases. So this type of study has a vital role in anatomy, forensic science, radiology, orthopedic surgery, plastic surgery, medical rehabilitation, sport science and nutrition science.

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A LITERARY REVIEW OF LEPA CHIKITSA w.s.r. TO CHATURVINSHATI
UPAKRAMA

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ABSTRACT :

Ayurveda is an ancient science in Indian system of medicine. The foundation of *Ayurveda* is based on eight clinical branches (*Ashtang Ayurveda*). Among these branches *Agadatantra* is one of the clinical branch in which treatment of various poison is described. A general principle of treatment of poisoning is explained in *Ayurvedic Samhitas* like *Charaka*, *Sushruta* and *Vagbhata*. In *Charaka samhita*, twenty four *Visha Upakrama* is mentioned which can be used as general principles of treatment of poisoning. In Modern Medicine general principles of treatment of poisoning is mentioned in the Toxicology. These basic principles are Resuscitation, Removal of unabsorbed poison, use of antidotes, elimination of absorbed poison, symptomatic treatment and general health of patient. *Vishaghna lepas* are chief contribution of *Ayurveda* which dealt under *Agada tantra* to treat various poisonous and unknown poisonous conditions and in conditions like *Dhoosivisha* and *Garavisha*. *Ayurveda* emphasized on both internal and external remedies to normalize *Avasthika* and *Sthanika vikaras*. *Lepas* have first importance to cure *sthanika vikaras* and to prevent further spreading of diseases.

What's Already known? : Various articles published on *lepa chikitsa*, correlation with modern concept and its mode of action.

What study add? : In this article, further effort has been made to evaluate the importance, mode of application and their action of *Vishaghna Lepa*.

Key words: *Vishaghna Lepa* , *Dhoosivisha*, *Garavisha*, *chaturvinshati upakrama*.

INTRODUCTION: The goal of medicine is to prevent disease, restore health and reduce suffering. Sufferings can be both external and internal; the external sufferings may be in the form of pain, rashes, inflammation, various skin lesions etc. Understanding and appropriately treating these external sufferings is an important component of this goal. In contemporary science analgesics are given in the form of topical applications, is said to provide the therapeutic benefits by reaching the local tissue with minimal side effects. A general principle of treatment of poisoning is explained in *Charaka samhita*, *Sushruta samhita*, *Ashtanga Sangraha* &

Ashtanga Hridaya. *Charaka samhita* has mentioned manifestation and treatment of *Sthavara visha* (Inanimate poison) *vega* and *Jangama visha* (animate poison) *vega* commonly together. But *Sushruta samhita*, *Ashtanga Sangraha* and *Ashtanga Hridaya* describes *sthavara visha vega* its manifestation and treatment at one place and *Jangama visha vega* its manifestation and treatment in *sarpavisha* (snake poison). *Charaka samhita* has explained *Chaturvimshati Upakrama*¹ (Twenty four modalities) of treatment of poisoning which is also used in different *visha vega* and its treatment. So these twenty four modalities

of treatment of poisoning described in *Charaka* can be used as unique immortal principles of *Ayurveda*. In *Ayurveda* the topical applications are known as *Lepas* and this comes under the broad heading of *Bahiparimarjana Chikitsa*². Skin is the largest protective barrier in the body which prevents invasion of microorganisms, toxins and foreign substances in the body. The main area of *Bahiparimarjana Chikitsa* is *Twak* and the treatments like *Lepa*, *Abhyanga*, *Swedana*, *Parisheka*, *Unmardana* etc. according to disease are known as *Bahi-parimarjana Chikitsa*². The *Vishaghna lepas* are those which nullifies the harmful or poison effects from the *sthavara, jangama and krutrima visha*. The term 'Dooshivisha' is of much importance now a day as it implies latent or residual poisons. In all *vishachikitsa Lepas* are considered as first and prime treatment aspect, so in this article an effort is made to explore those *lepas* which are explained under *visha Chikitsa* and their use and precaution's while using them.

AIMS & OBJECTS:

1. To study general principles of treatment of poisoning in *Ayurveda* with special reference to *Chaturvimshati Upakrama* (Twenty four modalities) of *Charaka*
2. To study *lepa* concept in detail
3. Draw a conclusion from the study

Definition of Lepa:

The medicines that are in the form of a paste and used for external application are called as *lepas*³.

Types of Lepa:

*Sushrutha*⁴ - *Pralepa, Pradeha, Alepa*.
*Sharangadhara*⁵ - *Doshagna, Vishaghna and Varnya*

both categories *lepas* into 3 separate varieties and *Vagbhat Snaihika*⁶, *Nirvapana*, *Prasadana*, *Stambana*, *Vilayana*, *Pachana*, *Peedana*, *Shodana*, *shoshana* and *Savarneekarana*.

Vishaghna Lepa: *Acharya Sharanghadhar* entitled the name *Vishaghna lepa*. That which nullifies the poisonous effect is called *Vishaghna Lepa*, and it is one among *Chaturvimshati upakrama* according to *Charaka*. *Susruta* and *Vagbhat* also had given prime importance. In any exposure to *Sthavar or Jangama visha*, *Doshas* get vitiated and that will be neutralized by *vishaghna lepas*. *Vishaghna lepa* is said to be *sheetal* in nature. *Acharya Charaka* while discussing the treatment of *Kushta* tells about importance of *Agada (Vishaghna) yogas* as if the spot (lesion) which is stony hard, rough, stable and old then one can use *Agadyogas*'s in form of *Lepa, Paana, Anjana and Nasya*⁷.

General method of preparation⁸: The drugs are first made into a fine powder and then mixed with some liquid media like water / cow's urine/ oil /ghee /*swarasa* /decoction etc. to obtain the paste form. This paste is applied over the skin.

Doshagna lepa- Here, the powder has to be mixed with *Aranala* (fermented gruel) as the media.

Visaghna lepa- Here, Ghee mixed with hot water should be used as the media.

Varnya lepa- Here, lemon juice/ milk should be used as the media.

Common Rules of application of Lepa: While applying the *lepas*, *sneha*'s are said to be added. Their quantity has to be decided as per the *dosha* vitiated⁹. The *Lepa* should not be applied at night time and left

in situ after drying. It must be removed as soon as it dries up, because *lepas* in wet state help to cure the diseases and on drying, they lose their potency and causes the irritation of the skin¹⁰. *Lepas* should be prepared and used fresh. *Lepas* should be applied only once and should not be applied over the previous one¹¹.

Matra of Lepa: *Sushruta* has compared the thickness of *Lepa* to the skin of buffalo, he says that *Pralepa* is thinner and *Pradeha* is thicker to buffalo's skin and in between is consider as *Alepa*. *Acharya Sharangdhara* says as *Doshaghna lepa* -1/4 *angula*, *Vishaghna lepa*-1/3 *angula*, *Varnya lepa*-1/2 *angula*¹² [1 *Angula* = 1.95cm, *yavodarairangul amastasankya*¹⁷].

Possible mode of Action of Lepa: *Lepas* are usually applied against the hair follicular direction, this facilitates the quicker absorption of the drug through *Romakupa* (hair roots), *swedavahini* (sweat glands) and *siramukha* (blood capillaries)¹³. In the Chapter *Dhamani Vyakarana Adhyaya Susruta* explains *Dhamanis* which are *Oordhwagata*, *Adhogata* and *Tiryakgata*. Here he explains four *Tiryakgami Siras*. Out of these four, each divides gradually hundred and thousand times and thus become innumerable: by these the body is covered like network, bound and pervaded their openings are attached to hair follicles which carry sweat and replenish *rasa* inside and outside (“*Swedamabhivahanti Rasamchahitarpayanthi Antharbahischa.....*”); through them only the *veerya* of *Abhyanga*, *Snana* and *Lepa dravyas* enter the body after being transformed in skin; the same also carry the sensation of touch pleasant¹⁴. The physiochemical properties of

a drug in a topical dosage form affect that drug's transdermal delivery and topical bioavailability. The molecules of the formulation after penetrating through the stratum corneum and into viable epidermis and dermis produces its characteristic pharmacological response through receptors even before the blood and lymph circulations remove it, in which case it may set in a cascade of systemic effects. Though the horny layer is very impermeable to most chemicals, contributing the rate limiting step in trans-dermal absorption because of its high diffusion resistance, providing a small fractional area of 0.1 % only as permeable appendage shunt route. Besides this route the drug molecules may penetrate through the hair follicles and sebaceous glands or through sweat ducts also and thus helps to remove or neutralize the toxins in initial stage only¹⁵.

Precaution for using Vishaghna

Lepta: The use of anti-poisonous formulation is judicious only when the case is definitely of poisoning, as if used in poison less person it may create troubles, hence with all efforts, poison should be diagnosed, as in absence of poison the physician might kill the patient¹⁶. So diagnosis plays important role and this precaution strictly follow when drug has to administered internally remove or neutralize the toxins in initial stage only.

DISCUSSION: *Lepa* is one of the important *bahirparimarjana chikitsa* which subcides vitiated *doshas* locally as well as deeper situated *doshas* in the body and prevents invasion of microorganisms, toxins and foreign substances in the body.

Most of *Vishaghna lepas* are *Tridosahara* mainly *pittahara* (*Brajakapitta* is situated in

twacha) and due to Ashraya Aashrayibhava they remove a vitiated Doshas from the Rakta and acts as Vishaghna. Ghruta mixed with hot water is best media for Vishaghna lepa. Ghruta an end product of milk, is an ideal substance that has a unique action on the body constituents, it has a beneficial soothing effect on the unctuous chain (Dhaatu Sneha Parampara) of the tissues. And its Sukshmakariguna helps in penetration of drug in deeper level.

Mode of administration Pralepa/ Alepa /Pradeha plays very important role in absorbing a poison. Sushruta has compared the thickness of Lepa to the skin of buffalo, he says that Pralepa is thinner and Pradeha is thicker to buffalo's skin, it means the actual thickness of the skin buffalo may be attributed as the thickness in between both, which will be thickness of Alepa. Acharya Sharangadhara says as Doshaghna lepa 1/4 angula (0.48cm), Vishaghna lepa-1/3 angula (0.65cm), Varnyalepa-1/2 angula (0.97cm).

[1 Angula = 1.95cm, yavodarairangul amastasankya¹⁷]. Lepa in the Pratiloma direction helps the Oushadha to re-main there properly and allows it to enter the romakoopas and thereby potency (veerya) of dravya entering to svedavahinisrotas and make the action of the application quick and effective. Charakacharya explained importance of Agada (Vishaghna) lepa in Kustachikitsa, if the spot which is stony hard, rough, benumbed, stable and old then one can use Agadalepa's in form of Lepa, Paana, Anja and Nasya. By observing all indication of Vishaghna Lepa, lepa's are not only restricted to Twaka vikaras, it supportive to cure diseases involved in most

of other Srotas (indicated in Unmaada, Gulma, Arsha, Mudagarbha, etc....)

CONCLUSION: Vishaghna lepa can also be used in other aliments other than Visharoga. However, causative factor for a disease is important, i.e. history pertaining to Dhooshivisha/ Garavisha is must. All Vishaghna Lepas due to their Guna (property) and veerya (potency) act as Doshaghna Lepa, but all Doshaghna lepa need not be essentially Vishaghna. Lepa done externally through skin is only one example, though the Lepas described in our texts are effective, Vishaghna lepa are less used and less known, Knowledge of different varieties of Lepas available in different forms may help future research scholars and physicians to use it in an appropriate way

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ABSTRACT :

To assess the knowledge of health care professionals regarding medico legal aspects and its negligence. Negligence by doctors has to be determined by judges who are not trained in medical science. They rely on expert's opinion and decide on the basis of basic principles of reasonableness and prudence. This brings into a lot of subjectivity into the decision and the effort is to reduce it and have certain objective criteria. This may sound simple but is tremendously difficult as medical profession evolves and experimentation helps in its evolution. Thus, there is a constant tussle between the established procedures and innovative methods, but, innovation simply for the sake of being different, without any reason is not acceptable. These issues make it extremely challenging to decide negligence by Doctors. The paper examines the concept of negligence in medical profession in the light of interpretation of law by the Supreme Court of India and the idea of the reasonable man.

Key words: Courts, Doctors, Hospitals, Medical negligence, Law

INTRODUCTION: Medical profession is considered as most important profession all over world. A Doctor is placed only second to almighty God. He enjoys a position of an Angel. Patient feels a divine image in him. Its sole objective is improvement of the quality of the people and mitigation of sickness and suffering. It is not a mathematical process but a service oriented liberal profession having a self-regulating code of ethics¹. The relationship between Doctor and patient is based on trust and confidence but these trusts, sacredness and confidence has become the talk of olden days and now it sounds hollow. Doctors treat patient like God and people revered and respected them, with commercialization spreading to all aspects of our lives, the medical profession

and services rendered by hospitals and private clinics are going through dramatic changes. Some incidences cause suffering to patients, forcing the legislature and public to think twice about credibility and authenticity of medical treatment given to patients². Hence, Doctor patient relationship has deteriorated considerably and medical negligence is on the increase which is the act or omission by a practitioner and thus the treatment provided is below the accepted level and causes injury to patient, Statistics show that each year in United States approx.195000 people die because of medical errors. As a result it was increasingly felt that medical errors as a result it was increasingly felt that medical treatment should also be made answerable hence doctors were

covered by various laws³ Indian society is experiencing a growing awareness regarding patient's rights. In India Consumer Protection Act in 1986,⁶ which was enacted for better protection of interests of consumers. It covers deficiency of service by medical professionals in such cases to provide redresses to the patients? The law is not made to punish all health professionals that cause injury to patients; it is concerned only with negligent acts. Doctors should be clear while taking the cases they must decide whether to undertake the cases what treatment to give and they must take care in the administration of the treatment. A breach of any of these duties gives the patient a right to act for negligence⁴. The act applies to all goods and services, excluding goods for resale or for commercial purpose, services rendered free of charge and under a contract for personal service. After about a decade of its enactment, in 1995, medical profession was also included within the ambit of CPA by the Supreme court of India in a landmark case of Indian Medical Association vs. VP Shantha.⁵

AIM AND OBJECTIVE:

- 1) To study an awareness about medical negligence among the faculty of medical profession.
- 2) To study medical negligence.

Negligence: It is very difficult to define negligence; however the concept has been accepted in Jurisprudence. The authoritative text on the subject in India is the 'Law of Torts' by Ratanlal and Dhirajlal. Negligence is the breach of a duty caused by the omission to do something which a reasonable man guided by those considerations which ordinarily regulate the conduct of human

affairs would do, or doing something which a prudent and reasonable man would not do. Actionable negligence consists in the neglect of the use of ordinary care or skill towards a person to whom the defendant owes the duty of observing ordinary care and skill by which neglect the plaintiff has suffered injury to person or property.

The Definition involves three constituents of negligence—

- 1) A legal duty to exercise due care on the part of party complained of towards the party complaining the former's conduct within the scope of duty.
- 2) Dereliction or breach of said duty
- 3) Consequential damage.
- 4) Direct causation.

Essential components of negligence are three—Duty, Breach, resulting Damage, Direct relation between the Breach in duty of care and the Damage.⁷

The Reasonable Man: It has been held by courts that the test of reasonableness is that of the 'ordinary man' or also called as the 'Reasonable Man'. The courts used to judge the conduct of any defendant by comparing it with that of the hypothetical ordinary man.

Professionals: According to English Language a professional is a person doing or practicing something as a full time occupation or for payment or to make a living; and that person knows the special conventions, forms of politeness, etc. associated with a certain profession. Professional is contrasted with amateur—a person who does something for pleasure and not for payment.

Negligence by professionals: In the law of negligence, professionals such as lawyers, doctors, architects and others are included in

the category of persons professing some special skill or skilled persons generally any task which is required to be performed with a special skill would generally be admitted or undertaken to be performed only if the person possesses the requisite skill for performing that task. Any reasonable man entering into a profession which requires a particular level of learning to be called a professional of that branch, impliedly assures the person dealing with him that the skill which he professes to possess shall be exercised and exercised with reasonable degree of care caution.

Negligence by Medical Professionals:

Negligence in the context of medical profession necessarily calls for a treatment with a difference. To infer rashness or negligence on the part of a professional, in particular doctor additional considerations apply. A case of occupational negligence is different from one of professional negligence. A simple lack of care, an error of judgment or an accident, is proof of negligence on the part of a medical professional, so long as a doctor follows a practice acceptable to the medical profession of that day he cannot be held liable for negligence merely because a better alternative course or method of treatment was also available or simply because a more skilled doctor would not have chosen to follow or resort to that practice or procedure which the accused followed.

Problems and Suggestions:

Duty: The idea of negligence can be understood only when there is clarity about the duty of the Doctor, assisting staff, and the hospital as a whole. In several cases there is a problem of overlapping duties and thus, it becomes difficult to draw a line between the

duty of A and B. Thus, it is advisable to have clear cut duties laid down for different persons. Practically it is not possible so it should be provided a basic framework which helps in deciding matters in situations of confusion and failure.⁹

General Practitioner Vs Specialist: A number of problems arise when a general practitioner tries to treat a patient who requires services of a specialist or a super specialist. On the other hand, there may be problems also in situation when the general practitioner could have treated a patient however forms an opinion that he cannot do anything and the patient must be taken to a specialist, it may be too late. In both the above mentioned subject, it is to be seen that the general practitioner has a very critical role to play in the treatment of patient. Agreed that GP is not supposed to know everything, however it is expected that he must guide the patient properly.⁹

Risk and adventure: A problem often seen is the experimentation mode of some Doctors. As they might have been practicing as a Doctor for a very long time, they have experience and on the basis of that experience they would like to deviate from the standard set practice and procedure followed by others.⁹

Protocol: Proper guidelines, methods, procedures, and protocol must be laid down for things which are routine or are well known and established by Experts.⁹

Paper Work: Law requires evidence and documentary evidence in the form of case papers has to be meticulously prepared. The duty of Doctor is to treat patient however, it is also important to document the treatment given and at times the reason why such

treatment is given. The matters reach a court after several months and years and by that time the only thing on which the parties can rely in court is the case file. Patient should be given copy of papers, and oral evidence of Doctors and staff adds to the evidence.⁹

Electronic Records: An important improvement in paper work has been in the shape of electronic records, which allow easy storage and retrieval at the same time several copies can be made with minimal chances of errors.⁹

DISCUSSION: Medicine is a noble profession but there is also growing anxiety both within the medical profession and in the community regarding increasing trends of complaints and law suits against doctors. Negligence in the medical world has assumed great importance in relation to the medical malpractice suits in various countries in Asia, USA, Europe and more so in India. In the area of patient doctor relationship two important models dominate viz. One is based on paternalism and other is founded on the doctrine of informed consent.⁸

CONCLUSION: There are two possibilities in cases of negligence either it is negligence of doctor or it is negligence of staff. There may be a possibility of negligence, both of the doctor and staff. In most of cases it will be a case of joint and several liability and both doctor and hospital will be liable. The division of liability between the two of them will be decided according to understanding between the two. As far as determining negligence is considered, courts have to depend on expert's advice, except in cases of blatant violation of protocol and doing things which are considered to be unreasonable. Recent

decisions are a good step in the direction of making murky area a bit tidy, however a lot needs to be done by the courts in shape of clearer judgments so that the layman can benefit.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Importance Of Garbhini Paricharya – Review

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Abstract:-

Ayurveda is a science of life. The basic principle of Ayurveda is “Swaasthasyaswastharakshanamaathurasyarogaprasamanam.” To maintain theswastharakshanam Ayurveda has emphasized the need of Dinacharya, Rutucharya, etc. Hence, to get healthy and prosperous child, Ayurveda tells the concept of GarbhiniParicharya. GarbhiniParicharya is defined as systemic supervision (examination & advice) of a woman during pregnancy. Regular and periodic checkup should be started from beginning of pregnancy and continued till the birth of child. The proper garbhiniParicharya would result in the proper development of fetus, its delivery, health of the mother and her ability to withstand the strain of labour and post natal phase. In Ayurveda, GarbhiniParicharya have described monthly dietary regimen and lifestyle with medications for whole pregnancy. Therefore all this is to be achieved to fulfil the aim i.e. ensure normal pregnancy and uncomplicated labour with delivery of healthy child from a healthy mother. Garbhasthapakadravyas are beneficial for the fetus so its importance is mentioned in Ayurveda.

Keywords:- Garbha, GarbhiniParicharya, Garbhasthapakadravyas.

Introduction:-

In women's life, Pregnancy (garbhini) is most joyful and happiness phase. Life of women is not complete unless she becomes pregnant and gives birth to child. Wellbeing of garbha can be achieved only through the wellbeing of garbhini. So garbhiniParicharya is being described to maintain health and wellness of pregnant women right from confirmation of pregnancy till up to the birth of child. GarbhiniParicharya means caring for pregnant women in the form of aahara (diet), vihara (lifestyle), aushadhi (medicines), avoid garbhopaghatkarbhavas and use of garbhasthapakadravyas. Acharya Kasyapa says that what so ever eatables or drinkables are consumed by the pregnant women same becomes congenial to the fetus¹. So garbhini should take care of her diet and should never be neglected.

The main aims of garbhiniparicharya are-

- a) To protect fetus from known/unknown hazards.
- b) To promote normal growth and development of fetus.
- c) To conduct normal delivery without any fetal and maternal complications.

Garbhini Paricharya:-

It is broadly discussed under following sub titles. They are as follows-

- 1.Masanumasikapathya (aahar, vihar,aushadhimonth wise regimen).
- 2.Garbhasthapakadravyas (beneficial for pregnancy and fetus).

Masanumasikapathya-

*Aahar =>

During pregnancy, fetus gets nutrition from mother through placenta. So adequate nutrition is needed for proper development of fetus. Thus dietetic requirement of the mother also changes month wise. Acharyas have given all dietetic regimen in detail month wise so called as Masanumasikaparicharya, from first month up to nine month of pregnancy.Importance of pregnant women’s diet which she takes and from that Rasa uttpatioocursthat serves-

- i. Nourishment of her own body.
- ii. Nourishment of the fetus.
- iii. Nourishment of the breast2.

Role of monthly regimen3–

- 1. Softening of apara (placenta), pelvis, waist, sides of chest and back.
- 2. Vata anulomana- need for expulsion of fetus during delivery.
- 3. Promotes strength and complexion.
- 4. Delivery of healthy child.

Dietary regimen according to Acharyas

<i>Samhita</i>	<i>Charaka Samhita⁴</i>	<i>Susruta Samhita⁵</i>	<i>Astanga Sangraha⁶</i>	<i>Harita Samhita⁷</i>
Month				
During 1st month	Non medicated milk	Sweet, cold and liquid diet	Medicated milk	<i>Madhuyashti, madhukapushpa</i> with butter, honey and sweetened milk.
During 2nd month	Milk medicated with <i>madhura rasa dravyas</i>	Sweet, cold and liquid diet	Milk medicated with <i>madhura rasa dravyas</i>	Sweetened milk treated with <i>Kakoli</i> .

During 3rd month	Milk with honey and <i>ghrita</i>	Sweet, cold and liquid diet	Milk with honey and <i>ghrita</i>	<i>Krisara</i>
During 4th month	Milk with butter	Cooked <i>sastirice</i> With curd,dainty & pleasant food Mixed with curd.	Milk with one <i>Tola</i> (12gms) of butter	Medicated cooked rice
During 5th month	<i>Ghrita</i> prepared with butter extracted From milk.	Cooked <i>sastirice</i> with milk, meat of wild animals,etc.	<i>Ghrita</i> prepared with butter extracted from milk.	<i>Payasa</i>
During 6th month	<i>Ghrita</i> prepared from milk medicated with <i>madhuradravyas</i> .	<i>Ghrita</i> or rice gruel medicated with <i>Gokshura</i> .	<i>Ghrita</i> prepared from milk medicated with <i>madhuradravyas</i> .	Sweetened curd
During 7th Month	<i>Ghrita</i> prepared from milk medicated with <i>madhuradravyas</i> .	<i>Ghrita</i> medicated with <i>prithakparnyadi</i> group of drugs	<i>Ghrita</i> prepared from milk medicated with <i>madhuradravyas</i> .	<i>Ghritakhanda</i> (a sweet dish)
During 8th Month	<i>Kshirayawagu</i> mixed with <i>grita</i>	<i>Asthanabasti</i> , followed by <i>Anuvasanabasti</i> with oil medicated <i>madhura</i> drugs	<i>Kshirayawagu</i> mixed with <i>grita</i> , <i>Asthanabasti</i> , <i>Anuvasanabasti</i> .	<i>Ghritapuraka</i>
During 9th month	<i>Anuvasanabasti</i> oil prepared by <i>madhura</i> drugs, vaginal <i>pichhu</i> of this oil.	Unctuous gruels and meat soup of wild animals up to delivery.	<i>Anuvasanabasti</i> oil prepared by <i>madhura</i> drugs, vaginal <i>pichhu</i> of this oil.	Different variety of cereals

Table No.1: Monthly dietary regimen described by Acharyas.

***Vihar=>**

Susruta advised that women from first day of pregnancy should remain in high spirit, decorated with ornaments, wear clean garments and perform religious rites⁸. She should avoid heavy exercises, coitus, harsh or violent activities, ride over vehicles⁹, excess satiation, sleeping in day, awaking at night, and should avoid fasting, anger, grief, visiting lonely places, cremation ground¹⁰. Abnormal positions and postures may influence placental and uterine blood flow causing abortion, IUD or other abnormalities, so one should take care of it. Affectionate and good behavior of husband and servants¹¹, listening to songs, instrumental music helps in maintenance of pregnancy. Cold decoction of bilwa pulp, karpasa, rose petals, jatamamsi, pounded leaves of erandi or water prepared with sarvagandha drugs¹² or drugs that suppresses vata¹³ is advised to use for bath which relieves exhaustion.

***Aushadhi=>**

Susruta advised Asthapanabasti in 8th month with decoction of badari mixed with bala, atibala, sathapushpa, milk, curd, mastu, oil, salt, madhanaphala, honey and ghrita followed by Anuvasanabasti of oil medicated with milk and madhura rasadravyas for anulomana of vayu¹⁴. Whereas Charaka¹⁵ and Vagbhata¹⁶, in 9th month advised Anuvasanabasti with oil medicated with madhura group of dravyas and vaginal tamponade for lubrication of garbhasthana and garbhamarga.

Garbhashthapaka Dravyas 17-

The dravyas which help in proper maintenance of garbha and which decrease the effect of garbhopaghatkarabhavas is known as garbhashthapakadravyas. They are used to prevent abortion. They are used as a routine because it is beneficial for proper health, growth and development of fetus (garbha). Some of dravyas described by Charaka and Vagbhata are Aindri (Bacopamonnieri), Braahmi (Centella asiatica), Satavirya (Asparagus racemose), Sahashravirya (Cynodondactylon), Amogha (Stereospermum suaveolens), Avyath (Tinospora cordifolia), Shiva (Terminalia chebula), Arista (Picrorhiza kurroa), Vatyapushpin (Sida cordifolia), Vishwasenkanta (Callicarpus macrophylla), etc. These drugs should be taken orally with milk and ghrita. Drugs of Jeevaneeyagana can also be used in the same way. Kasyapa advocated amulet of Trivrit (Operculina tharpeuthum) should be also tied in waist of pregnant woman¹⁸.

Conclusion:-

To get fruitful outcome of nature, our Acharya's has advised garbhini paricharya from the day of conception till delivery. Ancient Ayurvedic acharyas were very much aware about the need of maternal care during pregnancy. Ayurvedic principles through the concept of garbhini paricharya improve the physical and psychological condition of the pregnant woman and makes their body suitable for sukhaprasava and help sustain the exhaustion of prasava. Use of milk and other liquid diet in 1st trimester of pregnancy is essential to avoid dehydration, malnutrition and other complications of pregnancy. Gokshura and drugs of the Prithakparnyadigana help in preventing edema which is common after 2nd trimester. Use of basti (enema) in last trimester is essential to relieve constipation, strengthen myometrium and helps in regulating their function during labour. Garbhashthapakadravyas are used during pregnancy to counteract any etiology of abortion or intrauterine fetal death if present and results in healthy baby.

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UTTAR BASTI IN THE MANAGEMENT OF FEMALE INFERTILITY:
CONCEPTUAL REVIEW

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ABSTRACT :

Infertility is a disease of female reproductive system which impairs the capacity of reproduction. Although the prevalence of infertility is believed to have remained relatively stable during past 40 years, there is no doubt that the demand of infertility evaluation and treatment has increased considerably. Kashyapa says that couples conceiving naturally due to deeds of previous life are considered as fortunate, otherwise they should be treated. *Uttar basti* has been indicated in female infertility because it facilitates direct drug administration into uterus. According to Charaka, due to normalization of *vata* caused by *Uttar basti*, the *yoni* retains the *garbha* quickly. Present review is an effort to understand the efficacy of *Uttar basti* in female infertility according to evidence based clinical trials. Considering the effects of *Uttar basti* it was proved as a better palliative treatment to many female disorders helps to revitalize the hormonal system and giving fruitful result.

Key words: *Uttar basti, Garbha, Yoni, Vata, Infertility, Tubal block*

INTRODUCTION: Infertility is generally defined as one year of unprotected intercourse without conception. Subfertility to describe women or couples who are not sterile but exhibit decreased reproductive efficiency¹. According to the WHO report about 2-10% of couples worldwide are unable to conceive primarily and about 60-80% couples in the world are infertile. It is estimated that 10% of normally fertile couples fail to conceive within their first year of attempt. Further 10-25% couples experience secondary infertility². Among these couples, causative factors are found about 30-40% in females and 10- 30% in males. Genetic factors, changed lifestyle, increased stress and environmental pollution are identified as factors contributing to the rise of infertility. It is a social stigma where the

female partner is blamed leading to marital disharmony.³ Charaka and Vagbhata have mentioned *Vandhya* under the description of *Beejamsa dushti*^{4,5}. According to Charaka abnormality of any one out of *Shadbhavas (matraj, pitraj, atma, satwa, satmya, rasa)* will cause the failure to conceive. Sushruta has mentioned *Vandhya* in *vataja yoniroga*⁶. In Kashyap Samhita *Vandhyattva* is mentioned in eighty rogas of *vata*. Bhela says that due to abnormalities of *bija* of mother and father, Non consumption of congenial *rasas* (malnutrition leading to improper formation of *rasa dhatu* and its *updhatu artava*), and disorders of *yoni*, the women becomes infertile⁷. Bhavprakash has mentioned *Vandhya* in *yonirogadhikar* and mentioned *Artavanasha* as one among the 80 *vatananatmaja vikara*⁸. Harita is the

first who classified *vandhyatva* in detail. Harita has included childhood, *garbhkoshbhanga*, loss of *dhatu*s and constriction of uterus and vulva due to coitus having been done with the girl before her menarche also in the causes of infertility. Harita Samhita mentions six types of *vandhya* like *Kakavandhya* (secondary infertility), *Anapathya* (primary infertility), *Garbhasrahvi* (repeated abortions), *Mrtavatsa* (repeated still births), *Balakshaya* (Nutritional) and *Vandhyatva* due to injury to *garbhashaya* or *bhaga*⁹.

According to Ayurveda, important factors for conception are *Rutu* (fertile period), *Kshetra* (uterus & reproductive organs), *Ambu* (proper nutrient fluid), *Bija* (shukra-shonita) & normalcy of *hridaya* (psychology). Abnormality of properly functioning *vayu* and *shadbhavas* can cause infertility. *Yoni pradasha* refers to abnormalities of vagina, cervix, uterus, fallopian tubes which hinders fertilization¹⁰. Management includes *Daivavyapashraya* and *Satwavyapashraya* *Chikitsa* which act through Psychic component. *Yuktivyapashraya* involves *antah* and *bahi parimarjana* (detoxification) and *Shamana* (palliative treatment). Depending upon the vitiation of the *dosha* and condition of the diseases, internal cleansing with internal oleation or intake of unctuous substances, vaginal application of pastes & *uttar basti* are administered¹¹. *Uttar basti* is a type of *basti upakrama*, a mode of administration of drug. *Uttar basti* has been well highlighted in the classics for the management of most of the gynecological disorders^{12,13}. Charaka recommends the use of *basti* for repeated still births¹⁴.

Definition: *Uttar basti* may be defined as a route of administration of drugs through

vesicular/urethral or genital route in females.

Indications: *Uttar basti* is indicated in the following conditions. 1. *Yoni vyapath* 2. *Pushpanasha* 3. *Garbhashaya vikaras*¹⁵.

Quantity & Frequency: *Uttar basti* can be administered three times a day on 3 consecutive days. The quantity mentioned is $\frac{1}{2}$ *pala* (20g)¹⁶. *Uttar basti* is advised to be given during the *ritukala* (period of ovulation) when *yoni mukha* is open^{17,18}.

Procedure: The physician should administer it to the women lying in supine position with knee flexed. Then introduce the nozzle into the vagina by pressing and squeezing the pouch¹⁹. The process is repeated for 3–4 times after the previous *dravya* come out²⁰. The present review

gives an overview of the potential use of *Uttar basti* in the treatment of female infertility including an evidenced based evaluation of its efficacy. A brief summary of these works have been presented below:

1. Kamayani Shukla (2010)²¹ : This study was a randomized clinical trial. Patients of child bearing age having complaint of failure to conceive due to tubal factor selected. For group A, *Yava Kshara Taila* & for group B, *Kumari Taila* intra uterine *Uttar basti* (5ml, after cessation of menstruation 6 days with a gap of 3 days in between for 2 consecutive cycles) was given. Tubal block was open in 85.71% patients in group A & in 80% patients in group B.

2. Anitha S. (2009)²² : In this open clinical trial 30 well established tubal block cases in the age group of 20-35yrs were included in the study. *Narayan taila Uttar basti* was given for 7 days in the dose of 5ml after the cessation of menstrual cycle. It shows efficacy in 70% cases and 53% cases conceived within 3-12 months period after treatment.

3. Sushila Sharma (2008)²³ : This is a case study of a patient with secondary infertility due to anovulation being treated with *Pushpa dhanva rasa* and *Ojaswani vati* 1 tablet twice daily for 3 months along with *Panchtikta ghritha + Nimba taila uttara basti* (5 ml). *Uttar basti* was started on 6th day of menstrual cycle and continued alternatively till 12th day for 3 cycles. After 5 months patient got conceived.

4. Chetna M Kodinariya (2008)²⁴ : In this clinical trial, 14 patients having cervical cause for infertility were selected in 2 groups to evaluate the efficacy of drugs like *Shatavari ghritha* and *Goghritha uttar basti* (5 ml) on 10th,11 th,12th day after menstruation for 3 consecutive cycles. For diagnosis of cervical cause, cervical mucus test and post coital test were done before and after treatment. Significant results were found in both the groups but *shatavari ghritha* showed better results.

5. R. Meera (2007)²⁵ : In this clinical trial *Mahanarayan taila* was administered among 33 patients with anovulatory cycles in the form of *Nasya* and *Uttar basti*. They were classified into 3 groups; in group B 5ml *Mahanarayan taila* was administered in form of *Uttar basti*, for consecutive 2 cycles, for 3 days after cessation of menstruation. Ovulation occurred in 57% patients in *Uttar basti* group.

6. Pratibha CK (2006)²⁶ : In this clinical trial 20 patients with anovulatory menstrual cycles were selected. Group A treated with *Tila taila* as intrauterine *uttar basti* (5 ml for 3 days in a month for 3 cycles). Group B was treated with *Lashuna taila* intrauterine *Uttar basti* (10 ml for 3 days in a month for 3 cycles). *Lashuna taila uttar basti* is effective in improving the size of the follicle and endometrial thickness where as *Tila taila uttar basti* is effective in reducing the cellularity of

cervical mucus. Out of 20 patients taken up for the study only 2 patients ovulated.

7. Savaliya Hetal (2005)²⁷ : In this clinical trial 46 patients with anovulatory cycles were selected. Group A, *Uttar basti* with *Shatpushpadi taila* 5ml intrauterine and *Shatpushpa Churna* 2g thrice a day orally. Group B, *Shatpushpa Churna* orally and Group C, Placebo drug for 2 months was given. In group A, 13 patients (81.25%) were completely cured (ovulation occurred).

8. Mishra Gayathri (2003)²⁸ : This is an open clinical study to evaluate the efficacy of *Shatavari taila* and *Garbhaprada* compound on 55 patients. *Shatavari taila uttar basti* (5ml for 4 days after cessation of menstruation for 2 consecutive cycles and *Garbhaprada* compound (2 capsules of 500mg thrice daily given 4th day to 12th day of menstruation) on *Vandhyatva* w.s.r to ovulation was carried out. Various relevant information regarding the presentation and demographics of the patients of infertility with special reference to anovulation, clinical approach of Ayurvedic regime was obtained in study. All the patients (100%) shown increment in follicular size and improvement in cervical mucus qualities. While 5 patients (72%) shown ovulation.

9. SP Otta (2002)²⁷ : In this controlled single blind clinical trial confined to female infertility, 30 cases were administered with *phala ghritha* (5ml) in the form of *Uttar basti* in therapeutic dose for 3 consecutive days in each cycle for 3 successive cycles. It was found to be significantly effective intubal blockage. Tubal block was open in 75.21% patients.

10. Shwati Jadhava (2002)²⁸ : This is an open clinical study to evaluate the efficacy of *Prajasthapanagana siddha ghritha* and *Prajasthapanagana siddha vati* on 40

patients. *Prajasthapanagana siddha ghritha uttar basti* (3 ml for 3 days for 2 consecutive cycles) and *Prajasthapanagana siddha vati* (5g BD for 2 months) on *Vandhyatva* w.s.r to ovulation was carried out. The overall clinical improvement was better in group A (93%) than group B (91%).

11. B. Syamala (1991)³¹ : A case report is discussed with the tubal blockage with hydrosalpinx. *Uttar basti* was given with *Dhanvantaram tailam* 5 ml for 7 days from 10th day of menses. Tubal patency test was found positive in the 3rd month after the commencement of the treatment.

12. Donga SB³² : In this work *Shamimashavattha ghritha* was administered to 24 patients with anovulatory cycles. Group A treated with *Shamimashavattha ghritha* as intrauterine *Uttara basti* (5ml for 3 days in a month for 2 cycles) along with *Shamimashavatthaghritha* 10g orally before meal in morning for 2 months. Group B was treated with *Gogritha* (5ml for 3 days in a month for 2 cycles) intrauterine *Uttar basti* and with *Shamimashavatthaghritha* 10g orally. It was observed that overall clinical improvement (ovulation) was better in group A (65%) than group B.

13. Dr. K. Bharathi, Dr. K. Gopakumar, Dr. M. V. Acharya³³ : In this open clinical trial 32 well established tubal block cases in the age group of 20-35yrs were included in the study. *Uttar basti* with *Ksheerbala tailam* 10 ml for 3 days for 3 consecutive cycles given. Majority of the good and fair response cases were seen under 20-25 yrs (75%) & 25-30 yrs age group respectively.

DISCUSSION: Management of infertility involves specific identifiable cause and its correction along with counseling to both

the partners. There are many factors responsible for female infertility like anovulatory factor, tubal factor and cervical factor. Ovulation disorder is the most common female infertility factor. Another commonest cause of infertility is Salpingitis, where the lumen of the tube becomes adherent and the passage between the uterus and abdominal cavity is blocked. The cervical factors (altered pH of cervix) are responsible for 5% cases of infertility. Endometriosis and chronic ill health are the other causes of infertility³. In condition of anovulation, *Uttar basti* removes the *srotosangha* and corrects the *artavagni* which regulates the menstrual cycle, thus resulting in ovulation. Ovaries contain receptors which receive hormones secreted by hypothalamus and pituitary gland. The drug stimulates these receptors, so that proper ovulation occurs in each cycle. *Uttar basti* is an ideal local treatment in tubal block and can be adopted for all sorts of problems of infertility as well as reproductive tract disorder. In tubal blockage the drug is reaching in bulk to the site of pathology. Hence *Uttar basti* relieves tubal block by lysis of adhesions and relieves obstruction²¹. In cervical factor, drug administered locally in the cervix and absorbed by cervical epithelium due to *sukshma* property of drug. The lipid soluble drug is passively diffused across the membrane in the direction of its concentration gradient. The rate of transport is proportional to lipid: water partition coefficient of the drug. The more lipid soluble, higher is the concentration and quicker diffusion. In this way altered cervical pH can be corrected by *Uttar basti*²⁴. *Uttar basti* helps in endometrial conditions by improving thickness of endometrium, improves the quality of

endometrium, helps in curing endometriosis, absorption is very fast gives quicker result³⁴. The above mentioned drugs could be regulating the Gonadotropin Releasing Hormone to induce ovulation and improving uterus blood flow, menstrual changes of endometrium. They are useful in infertility resulting from anovulation, cervical factors, tubal factors and immunological disorders. Strict aseptic measures should be adopted to avoid complications³.

CONCLUSION: This review summarizes and evaluates the evidence underlying the use of *Uttar basti* for female infertility. Effective studies are necessary to explore the possible mechanism i.e. effective dose, side effect and safety of Ayurvedic medicine in the treatment of infertility. *Uttar basti* has a lot of therapeutic potential. Proper selection of drug and time of administration is very essential for getting the desired results. *Uttar basti* has benefit of increasing ojus, replenishing the hormonal system and promoting fertility.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

To Study The Efficacy Of Shatavari Mandur In Garbhini Pandu

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Abstract

Women are treasured by the richness of continuing the human race. Pregnancy is a state in which all the physiological functions are hyper stimulated in order to meet the demands of the growing fetus. Anaemia during pregnancy is a very common condition which involves the fall in the haemoglobin concentration. The prevalence of anaemia in low-income pregnant women in 1st, 2nd and 3rd trimesters is 9%, 14% and 37% respectively. Iron deficiency anaemia results in decreased work productivity, increased child and mother mortality, foetal growth retardation and mild-to-moderate anaemia may increase susceptibility to infectious disease. The features of iron deficiency anaemia shares lot similarities with lakshana of panduroga. In this open labelled clinical trail, 5 patients fulfilling the diagnostic and inclusion criteria of panduroga/iron deficiency anaemia were administered with shatavarimandur with a doses of 500mg twice a day orally for one month. In the present study shatavarimandur showed a highly significant improvement in terms of subjective parameters like panduta, hriddrava, daurbalya, shrama and bhrama as well asin objective parameters like Hb%, MCH, MCV. This study has revealed that shatavarimandur provided statistically significant improvement in the cardinal features of Garbhinipandu as well as it has showed good effect on jatharagni and nourishment of pregnant woman and fetus without any side effect, due to the properties of the ingredients of traildrug such as deepana, pachana, balya, rasayana and rudhirakrit.

Keywords : Garbhinipandu, iron deficiency anaemia, shatavarimandur.

Introduction

Anaemia is defined as reduction in circulating haemoglobin below the critical level. The normal haemoglobin concentration in the body is between 12-14 grams percent. WHO has accepted upto 11 gram percent as the normal haemoglobin level in pregnancy. Anaemia in pregnancy is present in very high percentage of pregnant women in India.

In India nearly 25%- 30% of maternal deaths are due to PIH, Pre- eclampsia and eclampsia, which are associated with anaemia. Also, 30% maternal death/ day occur in anaemia due to intra and postpartum bleeding. So, Anaemia in pregnancy is the cause behind high maternal morbidity and mortality rate.

In modern medicine iron supplementation therapy is used to treat anaemia which is very costly and accompanied by adverse effects like constipation, gastritis, nausea, G.I.upset etc.

According to Ayurveda anaemia (PANDU) is rasapradoshajvyadhi, treated withmandurkalpa. Hence to overcome above problems I have decided to study the efficacy of shatavarimandur in garbhinipandu.

Aims And Objectives

- 1) To study in detail about garbhinipandu.
- 2) To study in detail – about effect of shatavarimandur in garbhinipandu

Material And Methods

This is the study of 5 gravid patients registered In opd of streerog and prasutitantra suffering from garbhodravpandu. The symptoms of pandu especially by ayurvedic view are given as below.

- 1) Vaivarnya.
- 2) Aayasenshwas (dyspnoea on exertion).
- 3) Hrudspanda (palpitation).
- 4) Dryness of mouth.
- 5) Puffiness of face.
- 6) Tachycardia.
- 7) Akshikutshoth.
- 8) Karna nada (tinnitus).
- 9) Daurbalya (weakness).

Selection Criteria

Patients having Hb% above 7gms and below 10gms having iron deficiency Anaemia with or without above symptoms were selected for study.

Drug Preview

ShatavariMandur consist of following ingredients –

- 1) **Mandurbhasm** – it is the oxidised compound of loha which is processed with goghrita to have precise action on rasa-raktadhatvagni and readily absorption causes samprapti bhang.
- 2) **Shatavari** – is RasayanDravya and especially advised in pregnancy which not only gives nutritional supplement, but also improves drug efficacy.

Anupan

Amalaki – is also RasayanaDravya containing vit C which accelerates iron absorption from drug and diet also

Clinical Trial

Trial conducted on 5 patients for one month duration with shatavarimandur 500mg BD

Observations And Discussion

Outcomes are;

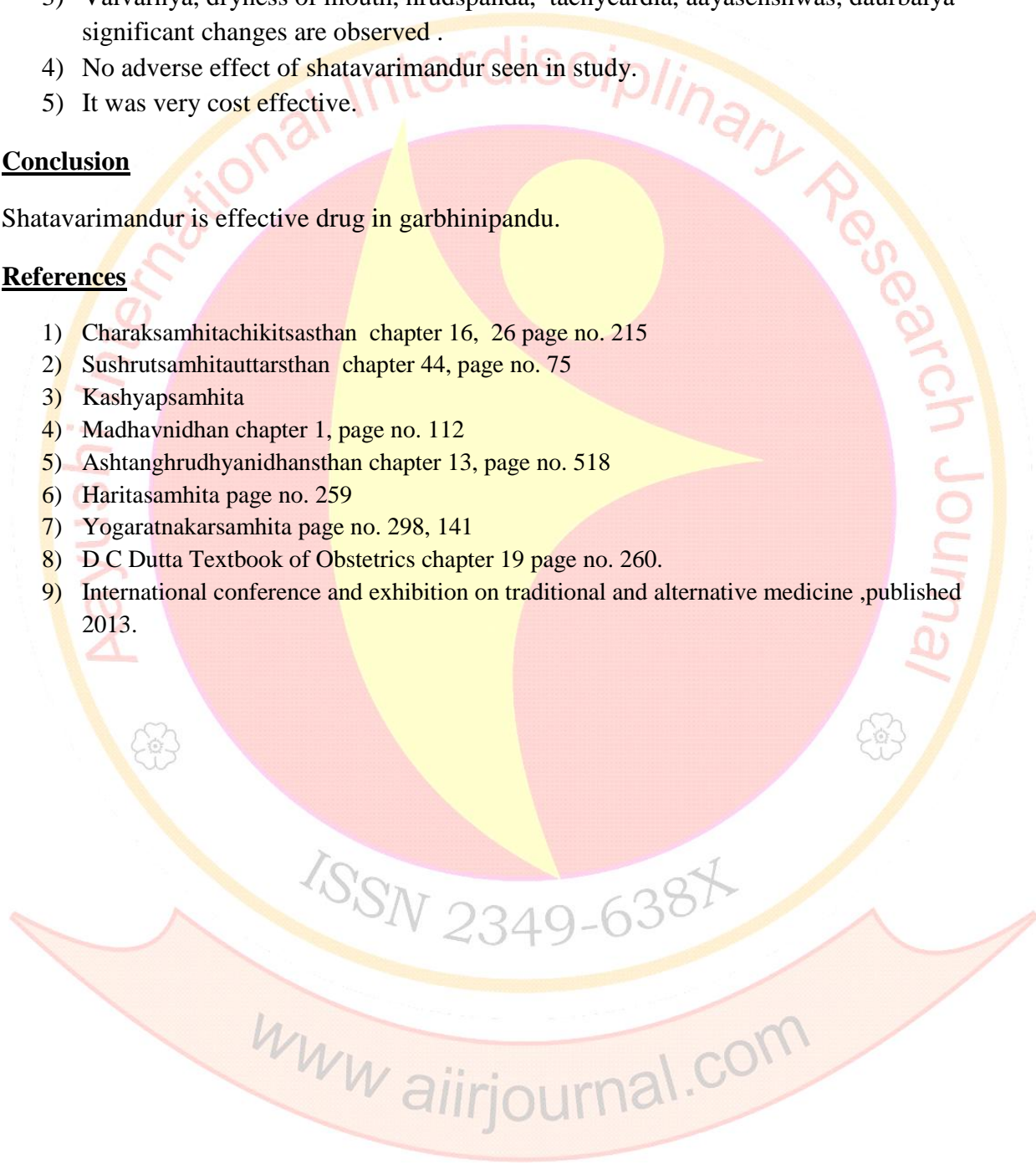
- 1) Shatavarimandur, the trial drug contain high elemental iron 68.3% .
- 2) Average increase in Hb% is 1.58gms .
- 3) Vaivarnya, dryness of mouth, hrudspanda, tachycardia, aayasenshwas, daurbalya - significant changes are observed .
- 4) No adverse effect of shatavarimandur seen in study.
- 5) It was very cost effective.

Conclusion

Shatavarimandur is effective drug in garbhinipandu.

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ROLE OF STHANIK CHIKITSA IN THE MANAGEMENT OF YONIKSHATA (POST OPERATIVE COMPLICATION OF EPISIOTOMY): A CASE STUDY.

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ABSTRACT

Sutika awastha is the post puerperal period, explained in many samhitas . In Kashyap samhita Acharya Kashyapa describe 74 sutika vyadhis (puerperal diseases) in “Sutikopakramaniya Adhyay” and “Dushprajatha chikitsa Adhyay” in Khila Sthana. Yonikshata is one of those. To prevent the Yonikshata we take surgical planned incision on the perineum and posterior vaginal wall during the 2nd stage of labour i.e. Episiotomy (perineotomy). If post- operative episiotomy care is not taken properly remote complication takes place like wound infection, wound dehiscence. wound dehiscence means wound disruption or nonunion. It may be correlated with Dushta Vrana according to Acharya Sushruta. A Sutika of 10 days visited at our OPD of Streerog

prasuti dept. complaining of Jwar, mutradaha, malavarodha, perineal pain and tenderness as well as discomfort while seating. On examination we observed Yoni kshata with Vrana Dushti at perineum where episiotomy was taken. Acharya Sushruta has described “Shashti upakramas” (60 measures) for vrana chikitsa. So we proposed plan for treatment. We use Sthanik chikitsa includes- Yoni parishek, yoni dhupan, yoni pratisaran in management of vrana due to yoni kshata along with vrana dushti. From 7th day of treatment and onwards we observed maximum relief from signs and symptoms in sutika (vrana due to yoni kshata). By this case study we conclude that the holistic approach of Ayurvediya Sthanik chikitsa plays an important role in the Management of Yonikshata (Post operative complication of episiotomy).

KEYWORDS: Jwar, mutradaha, malavarodha, perineal pain and tenderness.

INTRODUCTION

A surgically planned incision on the perineum and the post vaginal wall during the second stage of labour is called Episiotomy¹ (Periniotomy). It is inflicted second degree perineal injury. It is the most common operation performed.

Indicated specially in primigravida to anticipating perineal tear. Other are Rigid Perineum, Manipulative Delivery (like vacuum, forcep, internal inversion) etc, to cut short the second stage of labour, foetal distress. Bulging thinned perineum during contraction prior to crowning is the ideal time to take the episiotomy. The timing of performing the episiotomy requires judgement. If done early, the blood loss will be more. If done late, it fails to prevent the invisible lacerations, of the perineal body. The episiotomy wound is to be dressed each time following urination and defaecation to keep the area clean and dry and apply antiseptic lotion. If post operative care is not taken properly, remote complications takes place, like infection to wound, wound dehiscence, dysparunia, scar endometriosis, etc. Wound dehiscence² means wound disruption or non-union. Infection is the principle cause of wound dehiscence. According to Ayurveda, Kashyapa describes 74 sutika roga³ (puerperal disorders) in Sutikop-kramaniya adhyay in Khilsthana. Yonikshata⁴ is one of those. In Sushrut Samhita, we get most scientific description of wound and its management. Acharya Sushruta describes ShashtiUpkramas⁵ (60 measures) for Vrana Ropana (wound healing). Yonikshata (post operative complication of episiotomy) can be correlate with Dushta Vrana⁶, which is explained in Sushrut Samhita. So I decided to use sthanik chikitsa⁷ as Yoni-Parishek, Yoni-Dhupan, Yoni-Pratisaran in the management of Yonikshata and presented a case study.

CASE STUDY

Her medical history reveals that she was 10 days sutika. She was delivered on 25 feb. 2014 with episiotomy at Govt. medical college, Aurangabad, Maharashtra. She was discharged on the same day with oral antibiotic and anti-inflammatory drugs for 7 days. Her post puerperal care was taken by her relative who was illiterate. On 4th day by passing stool forcefully she observed that upper layer of suture was broken up. Her relative adopt the same T/T given earlier at home. On 10th day of delivery her relative found that the wound was more in depth instead of healing, so she went to private hospital, where she was advised for resuturing and if resuturing failed then grafting. So patient visited our hospital on 6th march 2014 at 8.30pm for Ayurvedic line of treatment. Patient clinically diagnosed by Ayurvedic approach. Ashtavidh parikshan of the patient was done.

Patient Name- XXX, 25yrs/ Female/ Christian by religion.

Address- Ramabai Chowk, Bhavsingpura, Chavani, Aurangabad.

Occupation- Housewife.

OPD No- 8287 **IPD No-** 1475

Date of Admission – 06 march 2014 at 8:30 pm.

Chief Complaints: 10 days sutika.

Pain & tenderness at perineal region, since 10 days.

Unable to seat and walk, since 10 days.

Severe constipation, since 5 days.

Fever, since 5 days.

Burning Micturation, since 5 days.

Obstetric History: G1, P1, L1, A0,

L1- Female Child, 2.75 kg, FTND with Episiotomy at Govt, Medical College, Aurangabad on 25 Feb 2014.

Past History- No H/O systemic HT, DM, Asthma or any other major illness. No H/O any type of allergy.

General Examination8

G.C. Good Shabda – skashta

Temp – 99.20F Sparsha – anushna

Pulse – 82/min Druk – aatur

RR- 22/min Akruti – madhyam Weight – 47kg

BP – 120/70 mm of Hg RS- chest clear

Mala – granthil (constipation) CVS- S1 S2 Normal

Mutra – sdaha (burning micturation) CNS- Conscious, well oriented

Jinhva – alpasam

Local Examination

Darshan pariksha (Inspection)

Site- left medio lateral side of obstetric perineum

Size and Shape – length- 6.5cm, breadth- 3 cm, depth- 3 cm

Edges – oedematous and reddish

Base – granulated, non healing and not so infectious

Discharge – reddish

Sparshan (Palpation)

Edges – oedematous

Tenderness - + + +

Prashna (question)

Pain - + + +

Unable to walk and seat.

Laboratory Investigation

		Normal Values
Hemoglobin	11.9 gm %	Male: 13 – 18 gm %, Female: 12 – 16 gm %
Total RBC Count	3.98 million / Cmm	4.5 to 5.5 million / Cmm
Total WBC Count	7500 / Cmm	4000- 11000 / Cmm
Differential WBC Count:		
Neutrophils	75%	40 - 75 %
Lymphocytes	23%	20 – 40 %
Monocytes	01%	02 – 10 %
Eosinophils	01%	02 – 06 %
Basophils	00%	00 – 01 %
HCT	35.2%	Males 40- 54 % Females 37 -47%
MCV	88.7 fl	76 – 96 fl
MCH	29.9 pg	27 – 34 pg
MCHC	33.7 gm / dl	32 – 36 gm / dl
Platelet Count	3, 76,000 / Cmm	1, 50,000 – 4, 00,000 / Cmm
E.S.R. (Wintrob's Method)	30 mm at the end of first hour	Male 0-9 mm, Female 0- 20 mm

Urine Analysis Report

(Fasting / Post meal / Random / Fresh)

Physical Occult Blood: -

Quantity: 10 ml **Microscopy of centrifuged sediments**

Color: pale yellow Red Blood Cells: 03 to 04 / HPF

Appearance: Sl-Turbid Pus cells: 03 to 04 / HPF

Specific Gravity: Q.N.S. Epithelial cells: 04 to 05 / HPF

Chemical Casts: Nil. Proteins: Nil.

Crystals: Nil.

Sugar: Nil. Bacteria: Nil.

Ketone bodies: - Nil Fungi: Nil.

Bile salts: Absent. Trichomonas Vaginalis: Nil.

Bile pigments: Absent. Amorphous Material:

PH: 6

HIV I and II – Negative

VDRL - non reactive

HBsAg – non reactive

According to Kashyapa, she was diagnosed as Yonikshata (sutika roga) postoperative complication of episiotomy and treat as Dushta vrana.

MATERIAL AND METHODS



We decide to use sthanik chikitsa i.e. Yoni parishek, Yoni dhupan and Yoni pratisaran Management of Yonikshata (Post operative complication of episiotomy).

1) **Yoni Parishek**⁹ –Triphala kwath¹⁰ for 15 min BD

TABLE

No	Drug	Latin Name	Family	Action
1	Haritaki	Terminalia chebula tertz	Combretaceae	Anti bacterial activity against human pathogenic gram +ve and gram –ve bacteria.
2	Vibhitaki	Terminalia belkerias	Comberetacese	Significant activity against both gram +ve and –ve organisms
3	Amlaki	Emblica Officinalis Gaertn	Euphorbiaceae	Anti-microbial, antioxidant.



2) **Yoni Dhupan**¹¹ – Acharya Shushrut had described about Rakshakarmain Su. Su. 5/18. In this method we use Guggulu, Agar, Sarjaras, Gaursndhur, Nimbapatra, Shatapushpa, Vacha, Haridra, Devdaru and ghee all these drugs in same quantity are burned & fumes are run over the wound for 15 to 20 min.

NO	Drug	Botanical name	Family	Action
1	Guggulu	Commiphora mukul	Burseraceae	Has typical fragrance of its own. being germicidal and durgandhinashana. It is used in fumigation.
2	Nimba	Azadirachta indica A	Meliaceae	Anti Inflammatory, Anti diabetic, Anti microbial activity, Immuno stimulant.
3	Agaru	Aquilaria agalocha roxb	Thymelaeaceae	Use as fumigation in shotha and vrana to prevent necrosis of tissues.
4	Shatapushpa	Anethum sowa kurz	Umbelliferae	Yonishulagna, Jwaragna, fungicide
5	Devadaru	Cedrus deodara	Pinaceae	Anti inflammatory, Dushta vrana shodhana
6	Haridra	Curcuma longalinn	Scitaminae	Krumighna, Kandughna, Antiseptic,
7	Vacha	Acorus calmuslinn	Araceae	Rakshoghna. Inhibit the growth of gram +ve and –ve organisms, fungicidal
8	Sarjarasa	Vateria indica	Diterocarpaceae	Vranashodana, Vranaropana Anti

				ulcer genic For fumigation it is bactericidal.
9	Gaurasarashapa	Brassica campestris linn. Var.	Crucifereae	Germicidal, Kushtaghna, vranya and counter irritant so we use it in fumigation
10	Ghrita	Butyrum departum		Destroys poisons and Demons (evil spirits, bacteria, etc.)



3) **Yoni Pratisaran**¹²- Shodhan taila¹³, Ropan taila¹⁴ after each urination and defecation. The gauze piece soaked in Shodhan Taila was applied on the wound for 5 days to turn Dushtavrana in to shuddha vrana.



4) Abhyantar Chikitsa: Devdarvyarishta

Place of work- IPD CSMSS Ayurved College and Hospital Kanchanwadi, Aurangabad.

Follow up of study – Daily, but observations are noted on 1st, 5th, 6th, 11th and 15th day

OBSERVATION

1st day: date 06/03/14

General Examination

G.C. Good Druk – aatur

Temp – 99.20F Akrti – madhyam Weight – 47 kg

Pulse – 82/min RS- chest clear

RR- 22/min CVS- S1 S2 Normal

BP – 120/70 mm of Hg CNS- Conscious, well oriented

Mala – granthil (constipation) Stanya parikshana–stanya pravartan prakrut

Mutra – sdaha (burning micturation) P/A- uterus subinvolved, 4cm below umbilicus

Jinhva – alpasam P/V- luchia rubra + +

Shabda – skashta P/R- to rule out rectovaginal fistula

Sparsha – anushna

Local Examination Darshan pariksha (Inspection)

Site- left medio lateral side of obstetric perineum

Size and Shape – length- 6.5cm, breadth- 3 cm, depth- 3 cm

Edges – oedematous and reddish

Base – granulated, non healing and not so infectious

Discharge – reddish

Sparshan (Palpation) – Edges – oedematous

Tenderness - + + +

Prashna (question) –

Pain - + + +

Unable to walk and seat.



Treatment – As the patient was on oral antibiotic, the perineal wound was not so infected. On examination the wound was completely reopened with highly positive granulation. So the treatment was given from the day of admission. As follows,

- Written Consent of the patient and relative.
- Prepare the part.
- Soap water enema
- Vaginal antiseptic lotion pack throughout night
- Inj. Taxim 1gm BD IM

2nd day

On next day, scrapping of the wound from all side was done with scalpel blade no. 22 up to start of fresh bleeding with LA of xylocain 2% under all aseptic precaution. 1st vaginal mucosa sutured by continues interlock method with chromic catgut no. 1 -0 on curved round body needle. But due to fibrosis stitch was going to cut through. So the 2nd layer (perineal muscle) was sutured in interrupted method with chromic catgut no. 1 -0 on curved round body needle in depth. For strengthening the suture 3rd layer of perineal skin was sutured by mattress suture with simple sterile thread in interrupted fashion. dressing was done with betadine lotion.

T/t given

- Inj. Taxim 1gm BD IV
- Inj. Genta 80 mg BD IV
- Inj. Metrogyl 500mg TDS IV
- Tab. Zerodol SP 1BD
- Complete bed rest
- Defecation and urination is on bed.
- All advised for 5 days

5th day

P/A- uterus involuted

7 cm below umbilicus,

tenderness reduced

P/V- lochia serosa

L/E- Wound was healthy.

Suture was intact.

6th day

On the 6th day of resuturing, after passing stool suture was cut through & wound was reopened again, at that time modern opinion was taken & advised for grafting. So we decided to treat this condition by Ayurvedic view i.e. sthanik chikitsa and took the risk to avoid grafting.

General Examination

G.C. Good Druk – prakrut

Temp – 96.50F Akrti – madhyam Weight – 47 kg

Pulse – 80/min RS- chest clear

RR- 22/min CVS- S1 S2 Normal

BP – 120/70 mm of Hg CNS- Conscious, well oriented

Mala – granthil (constipation) P/A- uterus involuted

7cm below umbilicus

Mutra – samyak

Jinhva – niram P/V- lochia serosa +

Shabda – skashta P/R- to rule out rectovaginal fistula

Sparsha – prakrut

Local Examination

Darshan pariksha (Inspection)

Site- left medio lateral side of obstetric perineum Size and Shape – length- 5cm, breadth- 2 cm, depth- 2 cm

Edges – oedematous and reddish

Base – granulated, mucosal and muscular layer was healed, slight sloughy

Discharge – pale yellow serous

Sparshan (Palpation)

Edges – oedematous

Tenderness - + + +

Prashna (question)

Pain - + + +

Unable to walk and seat.



Treatment

Sthanik Chikitsa

- Omit all previous modern T/t
- **Yoni Parishek** –Triphala kwath for 15 min BD
- **Yoni Dhupan** for 15 min. BD

- **Yoni Pratisaran-** Shodhan taila, after each urination and defecation. The gauze piece soaked in Shodhan Taila was applied on the wound for 5 days to turn Dushtavrana in to shuddha vrana.

Abhyantar Chikitsa

- Devdarvyarishta 15 10ml BD
- Triphala guggul 16 500 mg BD
- Gandharva haritaki 17 3gm HS

11th day General Examination

G.C. Good Sparsha – prakrut

Temp – 96.50F Akroti – madhyam Weight – 47 kg

Pulse – 80/min RS- chest clear

RR- 22/min CVS- S1 S2 Normal

BP – 120/70 mm of Hg CNS- Conscious, well oriented

Mala – samyak P/A- uterus involuted completely

Mutra – samyak P/V- Lochia alba

Jinhva – niram

Shabda – skashta

Local Examination

Darshan pariksha (Inspection)

Site- left medio lateral side of obstetric perineum

Size and Shape – length- 3cm, breadth- 0.5 cm, depth- 0.5 cm

Edges – soft

Base – healing

Discharge – no

Sparshan (Palpation)

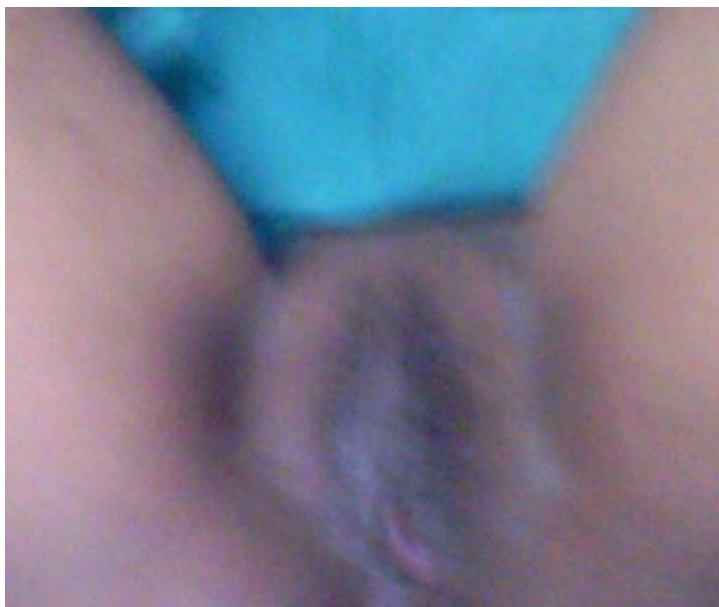
Edges – soft

Tenderness - +

Prashna (question)

Pain - +

Able to walk and seat.



Treatment

Sthanik Chikitsa-

- **Yoni Parishek** –Triphala kwath for 15 min BD
- **Yoni Dhupan** for 15 min. BD
- **Yoni Pratisaran-** Ropana taila, after each urination and defecation. The gauze piece soaked in Ropana Taila was applied on the wound.

Abhyantar Chikitsa

- Devdarvyarishta 10ml BD
- Triphala guggul 500 mg BD
- Gandharva haritaki 3gm HS Patient was discharged and advised treatment at home for next 8 days. In next follow up wound was cured completely.

RESULT

Yoni Kshata was completely cured.

DISCUSSION

- Due to yoni parishek with triphala kwath all debris washed out & disinfection of wound was done.
- Due to yoni dhupan all dushta kleda get absorbed from wound site which actually help in wound contraction. Due to dhupan dravya property & action it doesn't provide favorable condition for bacteria to grow.

- Dhupan dravya contains various volatile oil, as we create Dhum its volatile oil form of fumes acts on wound. Fumes has penetrating power, so it can be reached to micro and deeper levels and act there.
- Shodhan taila it helps to convert the dushta vrana into shuddha vrana.
- Ropan taila helps in formation of healthy granulation and wound healing.
- Matrabasti to relive constipation.
- Gandharva haritaki to relive constipation.
- Devdarvyarishta act as Garbhashaya shodhak, Garbhashaya lekhan as well as Dushta Vrana shodhak.

CONCLUSION

- Thus we conclude that the holistic approach (sthanik chikitsa) of ayurvedic system of medicine gives completely relief to the patients from yoni kshata (post operative complication of Episiotomy)
- Sthanik chikitsa in stree rog and prasuti tantra are very encouraging.
- Medicines used in the above case are cheap, effective and easily available
- No need of skin grafting.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

To Study The Efficacy Of Shatavari Mandur In Garbhini Pandu

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Abstract

Women are treasured by the richness of continuing the human race. Pregnancy is a state in which all the physiological functions are hyper stimulated in order to meet the demands of the growing fetus. Anaemia during pregnancy is a very common condition which involves the fall in the haemoglobin concentration. The prevalence of anaemia in low-income pregnant women in 1st, 2nd and 3rd trimesters is 9%, 14% and 37% respectively. Iron deficiency anaemia results in decreased work productivity, increased child and mother mortality, foetal growth retardation and mild-to-moderate anaemia may increase susceptibility to infectious disease. The features of iron deficiency anaemia shares lot similarities with lakshana of panduroga. In this open labelled clinical trail, 5 patients fulfilling the diagnostic and inclusion criteria of panduroga/iron deficiency anaemia were administered with shatavarimandur with a doses of 500mg twice a day orally for one month. In the present study shatavarimandur showed a highly significant improvement in terms of subjective parameters like panduta, hriddrava, daurbalya, shrama and bhrama as well asin objective parameters like Hb%, MCH, MCV. This study has revealed that shatavarimandur provided statistically significant improvement in the cardinal features of Garbhinipandu as well as it has showed good effect on jatharagni and nourishment of pregnant woman and fetus without any side effect, due to the properties of the ingredients of traildrug such as deepana, pachana, balya, rasayana and rudhirakrit.

Keywords :Garbhinipandu, iron deficiency anaemia, shatavarimandur.

Introduction

Anaemia is defined as reduction in circulating haemoglobin below the critical level. The normal haemoglobin concentration in the body is between 12-14 grams percent. WHO has accepted upto 11 gram percent as the normal haemoglobin level in pregnancy. Anaemia in pregnancy is present in very high percentage of pregnant women in India.

In India nearly 25%- 30% of maternal deaths are due to PIH, Pre- eclampsia and eclampsia, which are associated with anaemia. Also, 30% maternal death/ day occur in anaemia due to intra and postpartum bleeding. So, Anaemia in pregnancy is the cause behind high maternal morbidity and mortality rate.

In modern medicine iron supplementation therapy is used to treat anaemia which is very costly and accompanied by adverse effects like constipation, gastritis, nausea, G.I.upset etc.

According to Ayurveda anaemia (PANDU) is rasapradoshajvyadhi, treated withmandurkalpa. Hence to overcome above problems I have decided to study the efficacy of shatavarimandur in garbhinipandu.

Aims And Objectives

- 1) To study in detail about garbhinipandu.
- 2) To study in detail – about effect of shatavarimandur in garbhinipandu

Material And Methods

This is the study of 5 gravid patients registered In opd of streerog and prasutitantra suffering from garbhodravpandu. The symptoms of pandu especially by ayurvedic view are given as below.

- 1) Vaivarnya.
- 2) Aayasenshwas (dyspnoea on exertion).
- 3) Hrudspanda (palpitation).
- 4) Dryness of mouth.
- 5) Puffiness of face.
- 6) Tachycardia.
- 7) Akshikutshoth.
- 8) Karna nada (tinnitus).
- 9) Daurbalya (weakness).

Selection Criteria

Patients having Hb% above 7gms and below 10gms having iron deficiency Anaemia with or without above symptoms were selected for study.

Drug Preview

ShatavariMandur consist of following ingredients –

- 1) **Mandurbhasm** – it is the oxidised compound of loha which is processed with goghrita to have precise action on rasa-raktadhatvagni and readily absorption causes samprapti bhang.
- 2) **Shatavari** – is RasayanDravya and especially advised in pregnancy which not only gives nutritional supplement, but also improves drug efficacy.

Anupan

Amalaki – is also RasayanaDravya containing vit C which accelerates iron absorption from drug and diet also

Clinical Trial

Trial conducted on 5 patients for one month duration with shatavarimandur 500mg BD

Observations And Discussion

Outcomes are;

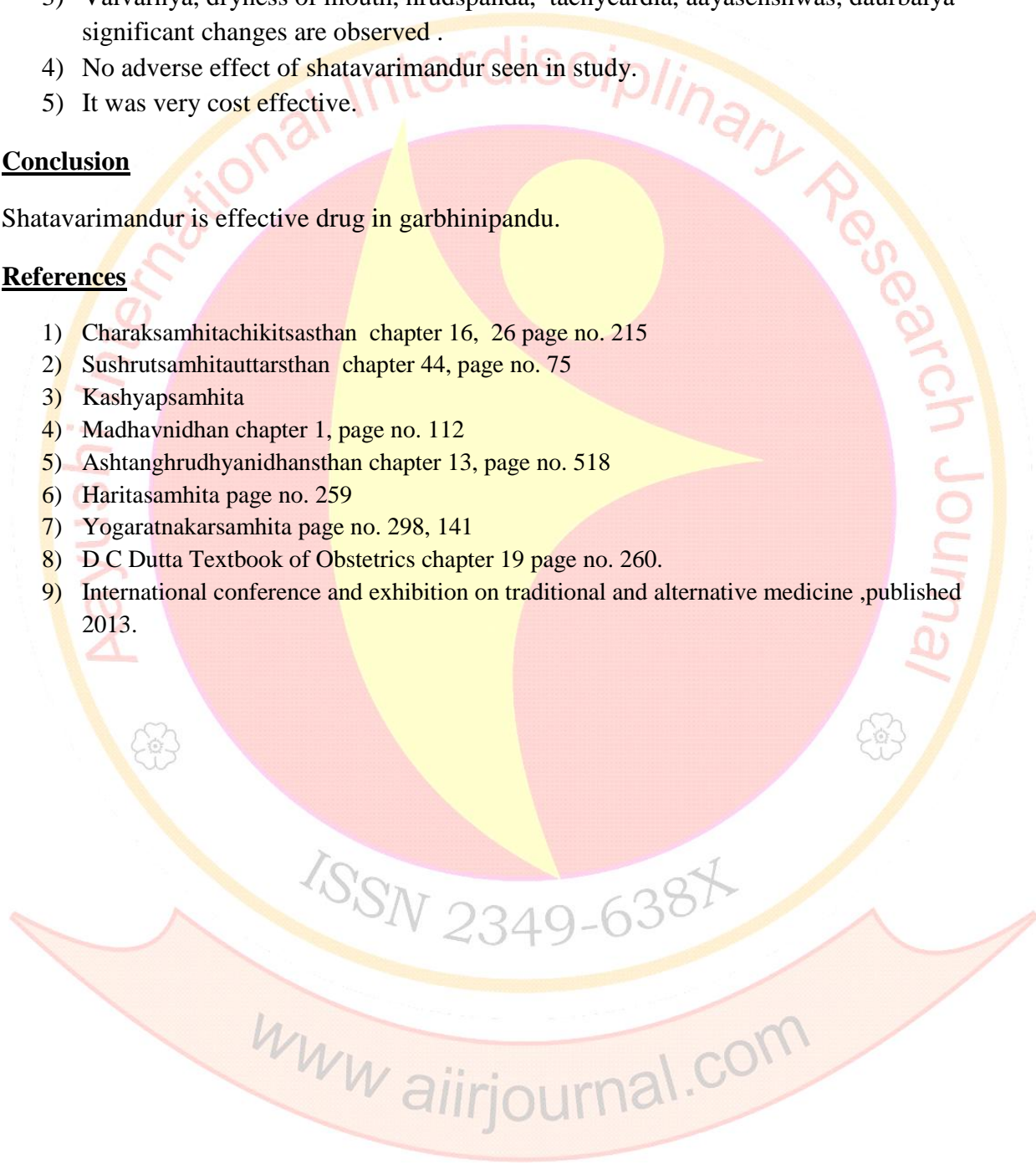
- 1) Shatavarimandur, the trial drug contain high elemental iron 68.3% .
- 2) Average increase in Hb% is 1.58gms .
- 3) Vaivarnya, dryness of mouth, hrudspanda, tachycardia, aayasenshwas, daurbalya - significant changes are observed .
- 4) No adverse effect of shatavarimandur seen in study.
- 5) It was very cost effective.

Conclusion

Shatavarimandur is effective drug in garbhinipandu.

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CONCEPTUAL STUDY OF DRAVA DRAVYA (LIQUID) IN PACHANA KRIYA (DIGESTION)

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ABSTRACT :

Ahara (Food, diet) is essential for the life of living beings. All living beings including man in the universe require food. It is observed that the intake of proper diet is the only way to the survival of the living organism. The body gets nourished as well as developed by the *ahara*. Our body constituted by *panchmahabhutas*. Therefore body requires *panchmahabhautic ahara*. But our body will not accept the diet in the original form. The original diet must be converted to acceptable form. *Jatharagni* (Digestive power in the G.I.T.) Converts the original diet into homologous form; along with *Jatharagni*, the '*drava*' *dravya* (liquid) in diet is essential for the proper *Pachana* of Food. *Drava dravya* converts solid *ahara* into liquid *ahara* and the liquid *ahara* therefore easily digest and absorb in *amasaya* (Stomach) and *gruhani* (Duodenum). Due to absence of *drava dravya* in diet, the diet will not get properly moister and it produces abnormalities in the body.

Key words: *Drava, ahara, pachana, digestion*

INTRODUCTION: The purpose of Ayurveda is for *prakriti*, *prakriti* means equilibrium of *dhatu*s in quality as well as in their actions¹. *Dhatu*s (*dosha, dhatu and mala*) are the basic components of our body. *Dhatu*s are responsible for health as well as for the disease of an individual. Equilibrium of *dhatu*s is called health and their disequilibrium is called disease². The object of this science is the equilibrium of tissue elements (*dhatu*s). *Dhatu*s get nourished by diet. All body constituents are basically *panchabhautic* and our diet is also *panchabhautic*. Those who take proper food and liquid, they will live happily and those not doing so, will live unhappy.

Due to various activities of the body, *dhatukshaya* (loss of body elements) occurs and for the nourishment of *dhatu*s, proper

diet is essential. But our body not accept the diet in original form. The original diet should be converted by *jatharagni* (Digestive power) and make it in homologous form. In *pachana kriya* (Digestive process) '*Drava*' *dravya* is essential because '*drava* (liquid) in diet liquefies the food resulting in easily digestion and absorption by the body. Due to presence of liquid in diet the solid *dravya* (solid particles in food) get moister and become easily digestible. Due to lack of *drava dravya* in diet *ahara dravya* will not properly moistened and they remain stored in the *amasaya* and duodenum in *pinda* form (Chyme, *annasanghata*). Because of *pinda* formation symptoms of indigestion such as *vidaha* (burning in stomach), constipation etc. are produced. Some time it may

produces disequilibrium in *dhatu*s. Therefore for the proper digestion of food, presence of *Drava dravya* in *ahara* is essential.

AIMS & OBJECTIVES:

- 1) To create awareness about liquid diet in routine life
- 2) To create awareness about principles of *aharsevana* (ingestion of food)
- 3) To promote liquid diet in food.

LITERATURE REVIEW: *Charka* has mentioned that *Amashaya* divided in three parts. One part for solid food, second for liquid food and third for empty space for *tridosha*, *Vata*, *Pitta* and *kapha*. Due to emptying of the third portion of the *amasaya*, three *doshas* act on food. *Vata* is essential for the movement of the *amasaya*, *pitta* is essential for the digestion of food and *kapha* is essential for moisture of food³.

After ingestion of *pistanna* (dry powdered grain) at least double quantity of water should be taken for the proper moisture of the food material⁴. Because of the lack of moisture of the food, is not properly digested and the food will remain stored in the *amasaya* in *pinda* form and the symptoms like *vidaha* are produced⁵. Owing to the *kledana* (to make it moist), the food particles get loose⁶. Out of five types of *kapha*, *kledaka kapha* is located in *amasaya* and it moistens the *annasamghata* (hard masses of food, *pinda*)⁷. Because of the presence of 'drava jala' in *amasaya* the *pindarupa ahara* gets moist and the food becomes easily digestible⁸.

The food affected by *doshas*, *guru* (heavy) or ingested with large quantity easily digest by proper *anupana* (*drava dravya*)⁹.

If a person ingest *ahara* without proper *anupana*, its diet will remain stored in stomach in the *pinda* form, because of *pinda* form the abdomen become discomfort¹⁰.

The process to change in the qualities of *dravya* is known as *karana*. Due to the combination of *jala*, *Agni* (heat) etc. with *ahara dravya* the *dravya* get transform in its qualities. Because of the combination of *jala* with *Kathina* (Hard) and *Khara* (rough) *ahara dravya* the *dravya* get change to soft *ahara dravya*¹¹.

Intake of water before meal produces *krshata* (slimness) of body and *agnimandata* (loss of appetite), in between meal it acts as a appetizer and at the end of meal it produces *sthoulya* (obese) and *kapha vridhi* (increase in *kapha dosha*). Taking milk at the end of meal is good for health¹².

If a person suffering from *trsnā* (thirst), *Daha* (burning sensation in the body), *Raktapitta* (bleeding from different parts of body), *Mada* (intoxication), *Murchha* (unconsciousness) should take *sita* (cold) *drava* for example:- milk and the *rasa* (juices) of *santra* (orange fruit), *Daadim* (*punica granatum*) grapes etc. similarly if a person suffering from *kapha* and *vata dosha* who take *Virechana dravya* (laxative or purgative *dravya*), whose body become dry advice to take *Usna* (hot) *drava* for example:- buffalo milk, preparation of *guda* (jaggery), *phanita* (treacle), honey, Mango juice, *Kakadi* (cucumber), *aswa* and *arista*. Person having *ruksha sharira* (dry body), excessive exercise should take milk, *ghrta*, *Tela* (vegetable oil), *Vasa* (animal fat), *Majja* (bone marrow), *Mansa rasa* (meat soup) etc. similarly a person who suffers from *medovridhi* (obesity), *prameha* (pre-

diabetic condition) should take *ruksha drava* for example:- *Gomutra (cow's urine)*, *usna jala* etc.

Persons having *suska sharira (dry body)*, *trsna*, *durbala (weak person)* should eat *drava ahara* for example: - *Yavagu (cereal diet)*, *Mugdha yusha (pulses soup)*, *Saka rasa (vegetable soup)* and *Mansa rasa*. Due to presence of *drava dravya* in it dry

dravyas are easily digestible. A person having *durbala agni (poor appetite)* may take meal once a day and a person having *Samagni (proper appetite)* takes meal twice a day, a person does not take medicine alone should take with *ahara dravya*. A person having disease should take meal mixed with *drava dravya*. According to *rtu (season)* diet should be *dosaprasamaka* for ex:

Rtu	Prakopa	Diet (dosaprasamaka)
Varsa	Vata	Snigdha, madhura, amla, lavana, usna
Sarat	Pitta	Sita, madhura, kasaya, tikta
Vasanta	Kapha	Usna, kasaya, katu, tikta.

Healthy person required to take *ahara* including its all the qualities for ex:- after eating *guru (heavy)*, *laghu (light)* *ahara dravya* they should take *Usnodaka (hot water)*, after taking *pistanna* should take *Sitodaka (cold water)* for maintaining their better health. For those people who use to eat and drink *mansahara (meat)* and *Maddya (alcohol)* should take *maddya*. Those person who does not take alcohol they should take fruit juice and *jala*. After intercourse and exercise should take milk¹³.

It is one of the important part of digestion as owing to this process the food particles is divided in small particles (*bhinnasamghata*) and the food stuffs become easily digestible. Owing to the lack of moister of the food is not properly digested and the symptoms like *vidaha (heart burn)* are experienced¹⁴.

DISCUSSION: *Ahara* is essential for life. The body gets nourished as well as developed by the *ahara*. Those who take proper food and liquid diet, live long and those not doing so, suffer from disease. Our body not accepts the original diet. It should be in homologous form¹⁵. *Drava dravya* in

ahara is essential for the proper digestion of food. Because of the lack of *drava* the food will not moisten. Because of this the symptoms of indigestion such as *vidaha* produces¹⁶.

After ingestion of food into mouth cavity the food gets chewed by the teeth and the *bodhaka kapha (Saliva)* gets mixed with *ahara* because *bodha kakapha* in mouth is *drava* in nature. Due to mixture of *Kapha* and *anna (ahara)*, *anna* gets moister and it become easily digestible. According to modern physiology when food enters the mouth cavity, saliva moistens and dissolves it and it facilitates chewing by the movement of the tongue and masticated food is rolled into a bolus and facilitates the swallowing. Also Saliva has digestive function¹⁷.

According to Ayurveda the *Kledaka kapha* is located in the upper part of *amasaya* liquefies the *ahara* and the food become easily disetible. Without moister of the food will not properly digested and therefore food remains stored in the stomach in *pinda* form. Due to formation of *panda vidah* produces in

the stomach. The *pachaka pitta* is located in *gruhani* and food is digested by this *pitta*, *pacaka pitta* has *drava* in nature and it mixed with food resulting in moister of food and due to moistened food has easily digestible.

The digestive juices described in modern physiology such as saliva, gastric juice, pancreatic juice, insulin, bile etc are included in *pacaka pitta*¹⁸. According to modern science it is observed that the saliva, gastric juice, pancreatic juice, bile etc have contain near about 99% water.

The secretion of saliva is 1000 to 1500 ml per day.

Composition : Water 99.5 %, solids 0.5%.

The secretion of gastric juice is about 1200 to 1500 ml per day.

Composition : Water 99.5 %, solids 0.5%.

The secretion of pancreatic juice is about 500 to 800 ml per day.

Composition : Water 99.5 %, solids 0.5%.

The secretion of bile is 800 to 1200 ml per day.

Composition : Water 97.6 %, solids 2.4%.

The secretion of succus entericus is 1800 ml per day.

Composition : Water 99.5 %, solids 0.5%¹⁹.

CONCLUSION: From above discussion it is concluded that for the proper digestion of food '*drava*' *dravya* should be essential. Without *drava* in diet symptoms of indigestion such as *vidaha*, constipation etc are produced in the body.

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CONCEPTUAL STUDY OF DRUG DEPENDENCE: A BURNING SOCIAL ISSUE

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ABSTRACT

Drug should normally be used for medical reasons only but with the increasing stresses of life, to control anger or distress, family issues, inability to do a job etc. made the person feel strong desire for taking the drug. Peoples started consuming overdose of drugs to overcome their problems and unfortunately becomes dependent on drug. Drug dependence is also known as the substance dependence. Now a day, people found the easiest solution of their problems in the form of drug. Drug dependence does not just affect the addict but also family, friends, employers and society. This problem has been increasing immensely among our society lead to harming one's body, causing problem in family structure and contribute to the delinquency in society. So, the present study is carried out for understanding devastating concept of drug dependence; so that youth can keep themselves away from overdose consumption of drug and so as to help to keep society healthy.

Keywords: *Drug dependence, Substance dependence, drug, madakari dravyas*

INTRODUCTION

India is a developing country leading by youth. Along with development, change in lifestyle took place which may lead to many medical conditions like high blood pressure, chronic pain, stress etc. which requires taking drug to maintain quality of life. This might be considered "drug dependence". According to *Ayurveda samhita*, *Sharangdhar* describes *madakari dravyas* in *Sha. S. Pratham khand 4/21-22* which means narcotics. While describing the *madakari* property, included all the drugs with *tamoguna* causing derangement of mind under *madya varga*. *Madya* is the one which makes the person to lose control over senses after consumption and also causes partial loss of intellect, conscious-

ness & discriminating power.¹

"A drug is any substance, other than those required for the maintenance of normal health, that when taken into the living organisms may modify one or more of its function"² But in today's modern era, drugs are being consumed in higher doses to overcome abnormal mental condition, frustration in life, anxiety, chronic tensions, physical inability to do a job, curiosity etc. resulting in dependence on drug for normal behaviour. To satisfy their urge to drug addiction, drugs have made its path from doctors /chemist's cabinet across the social, cultural, educational, economical and ethnic classes of the society by giving birth to a very serious social issue 'drug

dependence’.

W.H.O. expert committee on addiction producing drug has coined terminology ‘drug dependence’³. If it left untreated, one may increase drug dose as the body adapts to the drug which can result in overdose and death. So, for eradication of devil of drug dependence, young India must have to understand the concept of drug dependence, aetiology, its sign and symptoms and its treatment to deal with this burning social issue.

AIM: To study the concept of drug dependence.

OBJECTIVES:

- 1) To study the concept of drug dependence in details.
- 2) To draw a conclusion from study.

MATERIALS AND METHODS:

Type of study: Conceptual study

The study is based on literally review collected from classical modern text. The whole study is carried out under following heads –

- 1) Definitions of drug dependence
- 2) Epidemiology of drug dependence
- 3) Classification of drugs of dependence
- 4) Aetiology of drug dependence
- 5) Types of drug users
- 6) Factors related to drug dependence
- 7) Sign, symptoms and treatment of drug dependence
- 8) Discussion

1) DEFINITIONS OF DRUG DEPENDENCE

- a. It has defined by W.H.O. experts committee (1952) as a state arising from repeated administration of a drug on a periodic or continuous basis.⁴
- b. Substance dependence arises out of maladaptive pattern of substance use, leading to a cluster of behavioural, cognitive and physiological phenomena that develop after repeated intake.⁵

- c. It is defined as state, psychological or physical, in which a person has the compulsion to take a drug on a continuous or periodic basis, either to experience its pleasurable effects or to avoid the discomfort of its absence.⁶

2) EPIDEMIOLOGY OF DRUG DEPENDENCE⁷:

The National Household Survey of Drug Use in the country is the first systematic effort to document the nation-wide prevalence of drug use; alcohol (21.4%) was the primary substance used (apart from tobacco) followed by cannabis (3.0%) and opioids (0.7%), 17%-26% of alcohol users qualified for ICD10 diagnosis of dependence, translating to an average prevalence of about 4%. There was a marked variation in alcohol use prevalence in different state of India (current use ranged from low of 7% in western state of Gujarat (officially under prohibition) to 75% in the north eastern state of Arunachal Pradesh. Tobacco use prevalence was high at 55.8% among males, with maximum use in the age group 41-50 years.

The National Family of Health Survey (NFHS) provides some insights into tobacco and alcohol used. The changing trends between NFHS 2 and NFHS 3 reflect an increase in alcohol use among males since the NFHS 2 and an increase in tobacco use among women.

The Drug abuse monitoring system which evaluated the primary substance of abuse in inpatient treatment centres found that the major substances were alcohol (43.9%), opioids (26%) and cannabis (11.6%).

3) CLASSIFICATION OF DRUGS OF DEPENDENCE⁸

- a) Ethanol
- b) Tobacco

- c) Tranquillisers and sedatives: barbiturates, benzodiazepines, chloral hydrate, chlormethiazole, ethchlorvynol, glutithimide, meprobamate, methaqualone, zolpidem, zopiclone.
- d) Opiates and opioids.
- e) Cocaine
- f) Cannabis
- g) Amphetamines
- h) Hallucinogens: lysergic acid diethylamide (LSD), phencyclidine, psilocybine, mescaline, ketamine, DMT(Dimethyltryptamine).
- i) Inhalants: fluorinated hydrocarbons (freons), ethers, ketones, aromatic and aliphatic hydrocarbons.
- j) Miscellaneous drugs and substances: caffeine, *datura* seeds, analgesics, anabolic steroids, cough syrups, laxatives.

4) AETIOLOGY OF DRUG DEPENDENCE⁹

Following factors are considered as aetiology of drug dependence.

- a) Common in adolescents and adults.
- b) More common among persons with a tendency of –
 - Taking risk
 - Rebelliousness
 - Sexual promiscuity
- c) The drug may be taken for effect-
 - Euphoria
 - Improvement in capacity to understand and creativity.
 - Better relaxation
 - Improvement in capacity to overcome stress strains of life.
 - Enhanced sexual capacities.
 - Experience of sexual pleasure without having actual sexual relation.
 - Improve power of meditation. (religious)
- d) Common among people with psychological disorders such as-

- Psychoneurosis
- Psychopathic state
- Frank psychoses

5) TYPES OF DRUG USERS¹⁰:

Drug users may be-

- a) Occasional or moderate or social drug users
- b) Heavy users
- a) Occasional / Moderate/ Social drug users- related to occasional uses of alcohol or cannabis in some society. Western society may easily accept occasional use of alcohol but not cannabis, whereas our Indian society, particularly in some sections, occasional use of some specific preparations of cannabis may be acceptable but not alcohol. On the other hand, tobacco which definitely causes harm, a broad based acceptability in almost all society.
- b) Heavy users- are addicted or dependent on some drug and cannot do without the same. For them, to be 'normal' the drug should be always present in their blood.

6) FACTORS RELATED TO DRUG DEPENDENCE¹¹

a) **Personal factors**-physical & mental illness, user's personality, tolerance, threshold to different odds, compulsive psycho-educational states etc. may have to contribute towards indulgence to drug.

b) **Social and environmental factors**-these includes family status, environment, social and mental status of his friends, his capacity to meet social bindings and obligations etc.

c) **Drug factors**- this is probably the most important of the factor. Some of the drugs, on repeated use, cause psychological dependence, some physical dependence, and some both.

7) GENERAL SIGN, SYMPTOMS AND TREATMENT

General sign and symptoms of drug dependence are as follows-

- Irresistible desire to continue to take drug, development of tolerance, tendency to increase the dose, physical dependence on drug, desire to obtain drug by any means, withdrawal symptoms when the drug is stopped.¹²
- Constipation, emaciation due to loss of appetite, personal hygiene is very poor, likely to suffer from skin diseases and infections, impotence and sterility, in pregnant woman- premature, stillborn or addicted infants.¹³
- Unsteady gait, clumsy movement, reddening and puffiness of eyes, slurring of speech, lethargy and passivity, depersonalization and emotional detachment, acute intravenous narcotism characterised by the appearance of fulminant pulmonary oedema and immediate collapse & death.¹⁴

WITHDRAWAL SYMPTOMS

(Abstinence Syndrome)

The withdrawal symptoms are self-explanatory. They develop in 6 to 48 hours of withdrawal of drugs to which an individual has become an addict. Typical abstinence syndrome characterized by following symptoms and lasts for variable period depending upon the drug used.

- Yawning, running of nose and eyes, perspiration, tremors, goose-flesh, loss of appetite, restlessness, nausea, vomiting, loose stools, muscular cramps, dehydration, loss of weight and burning sensation in back.¹⁵
- Vague pain in abdomen and limbs, diarrhoea, increased libido, feeling of anxiety.¹⁶

TREATMENT¹⁷

Following measures are effective-

- a) Institutional treatment is recommended.
- b) Secret watch for preventing further supply of drug.
- c) Gradual withdrawal of drug in stages by progressive tapering of drug.
- d) Administration of small doses of sedatives. eg. Barbiturates
- e) Keeping the victim engaged with physical and mental activity.
- f) Psychotherapy in the form of encouragement.
- g) Improving general health by good and rich food.
- h) Symptomatic measures.
- i) **Rehabilitation¹⁸**: It is a continuous process of weaning away the victims of drug dependence. It is the most important component after weaning addicts away from drug dependency to prevent relapse.

DISCUSSION AND CONCLUSION

Drug dependence is an adaptive state that developed from repeated drug administration. We know that, drugs are only used for medical purposes but if it consume in overdose, one must have to suffer from its poisonous effects. People consume overdose to deal with their personal issues, to overcome frustration, to gain physical and mental fitness etc. and finally get addicted to a drugs like ethanol, tobacco, barbiturates, tranquilizers etc. without which they are enable to act normally. Such peoples are not only corroding their health but also corrode health of society and so as to country. Drug users are of two types 1) occasional users and 2) heavy users. Personal, social and drugs factors are responsible for drug dependence. It may produce symptoms like irresistible desire to continue to take drug, develop-

ment of tolerance, physical dependence on drug, desire to obtain drug by any means, constipation, impotence and sterility etc. Sudden withdrawal of drug produces Abstinence syndrome characterized by perspiration, tremors, goose- flesh, anxiety, vague pain in abdomen and limbs etc. Institutional treatment is the best way to treat patient. Psychotherapy, improving general health and symptomatic measures must be applied to deal with drug dependence.

It is important to study the concept of drug dependence to know its influence over the body. The concept of drug dependence is literally studied and its effect on body is explained. The literally concept of drug dependence helps to know the people about the severity of it and enhance their awareness about their health. Once we come to know the drug dependence, drug can be used properly only for medical reasons and their unwanted effects can be nullified from society. Hence to lead the world, young India must keep them away from the devil of drug dependence and it can be possible by understanding concept of drug dependence.

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STUDY OF *STHOULYA* (OBESITY) AND ITS *HETUS* WITH SPECIAL REFERENCE TO *MEDOVAHA SROTAS DUSHTI* IN ADOLESCENTS

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ABSTRACT

Introduction- Ayurveda has included *Atisthula* (obese or overweight) person in *Ashta Nindatiya Purushas* (undesirable physiques). They are more prone to chronic diseases like heart disorders, Diabetes, hypertension, Stroke and Cancers. **Aim-** To study the *sthoulya* and its *hetus* with special reference to *Medavaha Srotas Dushti*. **Objectives-** 1. To study different *hetus* associated with *sthoulya*. 2. To assess the *lakshanas* of *Sthoulya* in adolescents. **Material & Methods-** Participants in the adolescent age group between 10 to 19 years with classical sign and symptoms of *sthoulya* were randomly selected. **Results-** out of 100 study subjects, 61 % were male and 39 % were female. Out of total subjects, *atibhojana and madhur ahara sevan* was prevalent in 36.06 % boys and 41.2% of girls, while *atibhojana and snigdha ahara* was preferred by 32.78% 30.76 % boys and girls respectively. **Discussion-** Adolescents are usually habitual of *awyayama* and *diwasvapana*, leading to *Tridosha Dushti* – mainly *Samana Vayu, Pachaka Pitta*, and *Kledaka Kapha*. Out of these *tridoshas*, *kapha* is predominant to vitiate *medovaha srotas* due to abnormal fat metabolism causing *sthoulya*. **Conclusion-** Prevalence of obesity is nearly same in adolescent boys and girls, while proportion of preobesity is higher in boys as compared to girls.

Key words: *Hetu, Medovaha Srotas dushti, Tridosha, Adolescent, Preobesity, Sthoulya.*

INTRODUCTION

Ayurveda has included *Atisthula* (obese or overweight) person in *Ashta Nindatiya Purushas* (undesirable physiques). They are more prone to chronic diseases like heart disorders, diabetes mellitus, high blood pressure, stroke and few types of cancers. Ayurveda describes *Medavaha srotas* as one of the *srotas*, also it has mentioned seven basic body tissues (*Dhatus*) i.e. *Rasa, Rakta, Mamsa, Meda, Asthi, Majja, and Shukra*

Dhatus. Meda, fat or adipose tissue, is one of the seven dhatus.^[1] *Sthoulya is Meda and Mamsa vikara pradhana Santarpanajanya Vyadhi*^{[2],[3]} Obesity has emerged as one of the global health problems with 200 million school-aged children world-wide categorized as being overweight/obese, of which 40-50 million are obese.^[4] The factors attributing to increasing childhood obesity are increased intake of high-calorie foods that

are low in vitamins, minerals and micronutrients coupled with decreased physical activity.^[5] This may have major implications towards increasing prevalence of non-communicable disease (NCD) like diabetes, hypertension and cardiovascular disease in early adulthood.^{[6], [7]} Metabolic and cardiovascular risk factors continue in adult life from childhood leading to higher morbidity and premature mortality.^[8] World Health Organization (WHO) defines adolescents as young people aged 10-19 years. Currently, nearly one fifth of the global population consists of adolescents, i.e. 1.2 billion. Also, their numbers are found to be on the rise. Many habits acquired during adolescence will last a lifetime.^[9] *Sthoulya* is the abnormal and excess accumulation of *meda dhatu*. Frequent and excess intake of *kapha* increasing factors, sedentary life style, lack of mental and physical exercise are the most common etiological factors. *Sthoulya* can also occur due to *Beeja dosha*^[10] i.e. hereditary cause. Overweight and obesity are strongly associated with certain types of diets, such as those that include large amounts of fats, animal-based foods and processed food-stuffs.^[11] As obesity is a major risk factor for many severe disease like diabetes, cardiovascular diseases, cancers etc; it has been seen that with the dietary regime, various lifestyle measures *Sthoulya* is not controlled effectively. Considering the increasing prevalence of obesity in adolescent age group, this study has been carried out to find out the hetus associated with *sthoulya* with special reference to *Medovaha Srotas Dushti* generated due to abnormal fat metabolism.

AIM: To study *Sthoulya* (Obesity) as a life-style disease with special reference to *Medovaha Srotas Dushti*.

OBJECTIVES

1. To assess the *lakshanas* of *Sthoulya* in adolescents age group.
2. To study different *hetus* associated with *Sthoulya*.

MATERIAL & METHODS

Study design- Descriptive Cross Sectional study

Study place- All the patients attending the Out Patient Department in the dept. of Kayachikatsa in our institute.

Study tool: The patients with classical sign and symptoms of *Sthoulya* i.e. *Meda vaha srotas* were randomly selected and interviewed irrespective of their age, gender, religion, education, occupation, etc by using a proforma consisting of all the relevant points from Ayurvedic and modern view for proper diagnosis and assessment of the study subjects.

Selection of patients: The participants of either sex in the adolescent age group between 10 to 19 years were selected.

Method of data collection-

Sample size – Minimum of 100 patients of either sex were randomly selected for the study after fulfilling the inclusion criteria.

Inclusion criteria –

- Patients of either sex between the age group of 10 to 19 years.
- *Sthoulya* diagnosed according to the classical features like *Ati Sweda*, *Alasya*, *Ayasa Swasa* etc.
- Patient with Body Mass Index ≥ 25 kg / m².

Exclusion criteria-

- Subjects not fulfilling the inclusion criteria.
- Subjects having associated conditions like cardiovascular diseases, Diabetes and Cancer.

- Subjects having obesity due to endocrinal or genetic abnormalities.
- Subjects having fissure, fistula and hemorrhoids.

Diagnostic criteria- Diagnosis will be made on the basis of height, weight and BMI.

Height was measured in centimeters (cm) using a stadiometer. Weight was measured in kilograms (Kg) using a standardized weighing machine. Body mass index (BMI) was calculated using the formula weight (Kg) divided by height in square meters (m²). For adolescents, overweight and obesity are defined using age and sex specific normograms for body mass index (BMI).

Ethical considerations- Study was conducted after getting the clearance from Institutional Ethical Committee. Informed consent was obtained before starting the study.

Statistical Analysis- The collected data were entered into MS Excel spreadsheets for analysis. Categorical variables were presented as frequency & percentages. Appropriate tables and graphs were depicted & explained wherever necessary.

OBSERVATIONS & RESULTS

Table 1: Study subjects as per their characteristics associated with *Sthoulya*. (n = 100)

Characteristics		Boys		Girls	
		Frequency	Percentage	Frequency	Percentage
Age	10-19 yrs	61	61	39	39
BMI*	Pre-obese	57	93.4	32	82.05
	Obese	4	6.50	7	17.94
Physical activity**	Yes	22	36.06	13	33.33
	No	39	63.93	26	66.66
Personal Dietary History	Veg	36	59.01	24	61.53
	Non-Veg	19	31.14	12	30.76
	Mixed	6	9.83	3	7.69
Takes Junk*** / fast food frequently	Yes	45	73.77	32	82.05
	No	16	26.22	7	17.94
Family history of Obesity	Yes	38	62.29	28	71.79
	No	23	37.70	11	28.20
Family history of Diabetes	Yes	23	37.70	12	30.76
	No	33	62.29	27	69.23

Veg- Vegetarian, **Non-veg-** Non vegetarian

Note-

***BMI- Overweight-** consists of the two categories i.e. Preobese- BMI 25.00- 29.99, & Obese- more than 30.00

**** Physical activity-** was assessed using the average hours

of daily routine house work and regular walking.

*****Junk food-** Pizzas, Pastas, Burger, Bakery products, Cheese, Butter, Overfried oily items.

The subjects in our study were adolescents between the age of 10 years and 19 years. Out of total 100 study subjects, 61 % were

male and 39 % were female. The mean age of the subjects was 16.21 years (Average deviation 0.8316). The proportion of obesity was much higher among the adolescents specially among the girls (17.94 %) as compared to boys (6.50%); while 93.4 % boys and 82.05 % girls were pre-obese. Among the subjects, 62.29 % and 69.23 % boys & girls were habitual of sleeping in afternoon. Out of total subjects studied, only 36.06 boys and 3.33 % girls were involved in any type of physical activity regularly. Ready-made Junk or fast food eating habit other

than the home based food is proportionately higher in girls (82.05 %) as compared to boys (73.77 %). When asked about family history of obesity, 71.79 % girls have given the history of their parents being obese. When asked to boys, 62.29 % of them were saying that their parents are obese. Out of total subjects, 37.70 % boys and 30.76 % girls have given positive history of having Diabetes Mellitus diagnosed in their parents.

Table 2: Study subjects as per the Medovaha Srotas Dushti Lakshana.(n = 100)

<i>Medovaha Srotas Dushti Lakshanas</i>	Boys		Girls	
	Frequency	Percentage	Frequency	Percentage
<i>Ati Swed</i>	26	42.62	14	35.89
<i>Alasya</i>	22	36.06	17	43.58
<i>Ayasen Swasa</i>	6	9.83	5	12.82
<i>Hastapadtal Daha</i>	4	6.55	2	5.12
<i>Mukhmadhurya</i>	3	4.91	1	2.56
Total	61	100	39	100

Out of total study subjects, *atiswed lakshana* was found in 42.62 % boys and 35.89 % of girls, while *alasya* was most commonly seen in 43.58 % girls and 36.06 % of boys. *Mukhmadhurya* was found to be the least common *lakshana* observed only in 4.91 % and 2.56 % of boys and girls respectively.

Table 3: Study subjects as per the hetus associated with Sthoulya.(n = 100)

<i>Hetus</i>		Boys		Girls	
		Frequency	Percentage	Frequency	Percentage
<i>Aharaja Nidana</i>	<i>Atibhojana</i>	13	21.31	6	15.38
	<i>Atibhojana & Snigdha Ahara</i>	20	32.78	12	30.76
	<i>Atibhojana & Madhur Ahara</i>	22	36.06	16	41.02
	<i>Guru & Sheeta Ahara</i>	6	9.83	5	12.82
<i>Viharaja Nidana</i>	<i>Awayama</i>	39	63.93	26	66.66
	<i>Diwaswapna</i>	22	36.06	13	33.33
<i>Manasa</i>	<i>Achinta</i>	42	68.85	27	69.23

Nidana	Harshaniyatwat	19	31.14	12	30.76
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Table no. 3 shows classification *hetus* under *Aharaja*, *Viharaja* and *Manasa nidan*. It was observed that, out of total study subjects, *atibhojana* and *madhur ahara sevan* was prevalent in 36.06 % boys and 41.2% of girls, while *atibhojana* and *snigdha ahara* was preferred by 32.78% 30.76 % boys and girls respectively. *Guru & sheeta ahara* was the least commonly preferred *aharaj* type by both the sexes. *Awayama* was observed in 63.93 % boys and 66.66 % girls while *divaswapna* was the common habit seen in 36.06 % boys and 33.33 % of the girls. In *Manas nidan*, *achinta* was found in 68.85 % of boys and 69.23% of girls.

DISCUSSION

Out of total 100 study subjects, 61 % were male and 39 % were female. The mean age of the subjects was 16.21 years. Goyal R. K. et al have found that recent studies in India and other countries revealed obesity is becoming a growing health problem among children and adolescents, especially in urban populations, these findings were also consistent with our study.^[12] We have selected adolescents age group for the study, as in this age group people tends to have *diwasvapana* and *awayama*, which leads to *Tridosha Dushti* – mainly *Samana Vayu*, *Pachaka Pitta*, and *Kledaka Kapha*. Out of these *tridoshas*, *kapha* is predominant to vitiate *medovaha srotas* due to abnormal fat metabolism leading to *Sthoulya*. The proportion of obesity was much higher among the adolescents specially among the girls (17.94) as compared to boys (6.50); while 93.4 % boys and 82.05 % girls were pre-obese. Goyal R. K. et al showed that the prevalence of overweight was high among

children, 14.3% in boys, 9.3% in girls. The obesity was seen in 2.9% of boys and 1.5% of girls which was inconsistent with our study.^[12] Among the subjects, 62.29 % and 69.23 % boys & girls were habitual of sleeping in afternoon. Out of total subjects studied, only 36.06 % boys and 3.33 % girls were involved in any type of physical activity regularly. Readymade Junk or fast food eating habit other than the home based food is proportionately higher in girls (82.05) as compared to boys (73.77). Present study findings are consistent with Goyal R. K. study findings showing that body mass in children is influenced by the sleeping habit in afternoon, lack of physical activity and overconsumption of fast or junk food i.e. pizzas, pastas, burger, bakery products, cheese, butter, over fried oily items. When asked about family history of obesity, 71.79 % girls have given the history of their parents being obese. When asked to boys, 62.29 % of them were saying that their parents are obese. Out of total subjects, 37.70 % boys and 30.76 % girls have given positive history of Diabetes Mellitus diagnosed in their parents. Thus, in present study it was found that prevalence of pre-obesity and obesity was higher in children with family history of diabetes and obesity. In the present study, As per the *Aharaja Nidana*, most of the subjects were taking *Ati bhojan along with ati-madhur and ati snigdha ahara* leading to vitiation of *Doshas*. *Awayama* and *diwaswapna* were observed as *Viharaja Nidana* and *achinta* in *manas nidan* in most of the patients. Family history of obesity is found in most of the study subjects. *Atiswed and alasya* were the most common *lakshanas* observed in both the sexes. Faulty

dietetic habits, sedentary lifestyle, disturbed sleeping pattern, etc. are the leading etiological factors.

CONCLUSIONS

1. This study showed that the overall prevalence of obesity is nearly same in adolescent boys and girls whereas the proportion of pre-obesity is higher in boys as compared to girls.
2. *Sthoulya is due to Medovaha Srotas Dushti due to abnormal fat metabolism.* Faulty dietary habits and sedentary life style and *diwaswapna* are the etiological factors responsible for *Dosha Dushti* resulting in *Sthoulya*.
3. Positive family history, physical inactivity were the major risk factors associated with vitiation of pre-obesity status in adolescents.
4. Dietary advice on healthy food habits and regular physical activities for children are the key options to combat increased prevalence of obesity; early *Pathyapathya* plays an important role in the prevention of *Sthoulya vyadhi*.

Scope of future research: Large representative sample size should be included to confirm our observations and generalize the findings to the overall population other than the present sample population.

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Figure-1. Study subjects as per the Medovaha Srotas Dushti Lakshana.

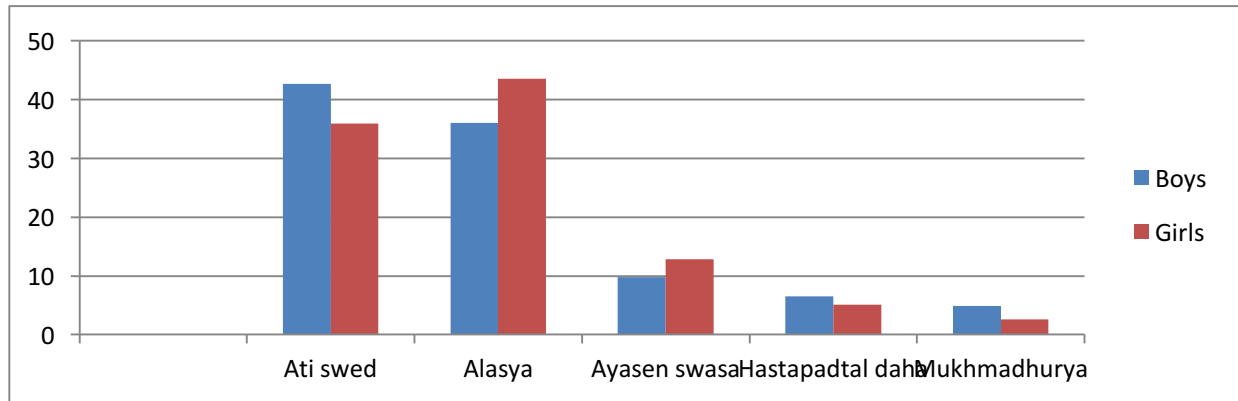
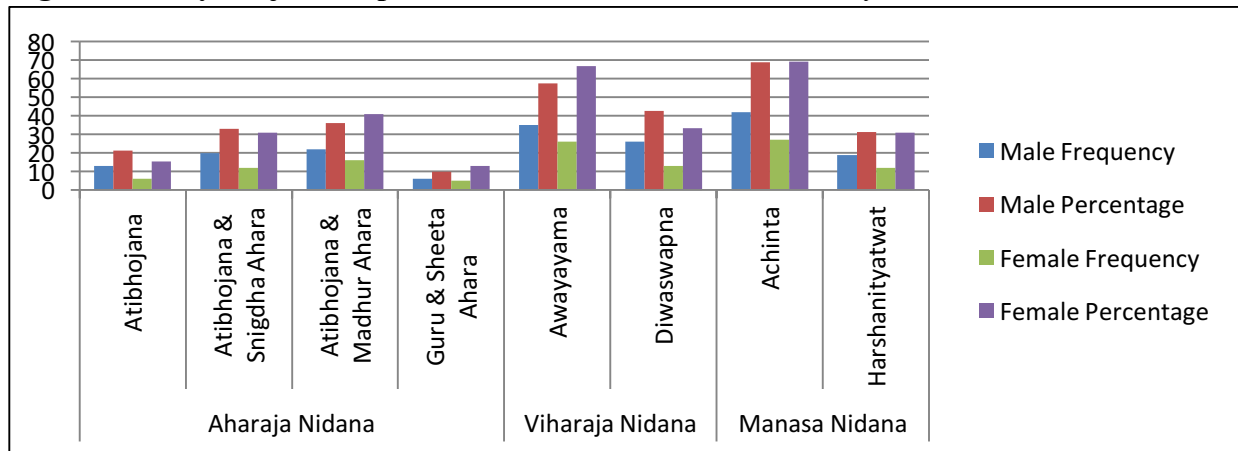


Figure-2 Study subjects as per the hetus associated with Sthoulya



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TO STUDY THE EFFECT OF VAMANA KARMA IN MUKHDUSHIKA

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ABSTRACT

In today's era *Mukhdushika* is most burning problem in India and also all over the world. It has been found that the young generation is most susceptible for *Mukhdushika*. The causative factors of *Mukhdushika* are hormonal changes, diet, change in life style, environment. *Ayurveda* have described *Mukhdushika* as a *Shalmali Kantak*¹. The *Shalmali* thron like eruptions on the face due to vitiation of *Kapha*, *Vata* and *Rakta Dhatu*². *Mukhdushika* affects mainly on the face and disturb the smart look and affects the glow of skin. Almost 90% of teenager's population affected by *Mukhdushika* and many of them leads to permanent marks (scars) or black spots on face. *Ayurveda* have described *Vamana* is one of the best purifactory major on cellular level for *Kapha Dosha* and *Ras-Raktagat Dhatu*. So I had selected the topic 'To study the effect of *Vamana karma* in *Mukhdushika*' which is curative etiopathogenesis of *Mukhdushika*.

Keywords: *Mukhdushika*, *Kaph Dosha*, *Vamana*, *Rakta*.

INTRODUCTION:

In today's era human life changes due to stressful jobs, day night shift duty, long time heavy work and diet pattern i.e. eating fast food, addiction of alcohol, smoking, pollution, mental, stress, which leads to vitiation of *Doshas* specially *Kapha*, *Vata* & *Pitta*³. All the *Samhitas* have pointed out *Kapha*, *Vata* and *Ras*, *Rakta*, *Shukra Dhatu* as the causative factor's of the *Mukhdushika*. In *Sharangadhara Samhita Vaktra Snigdhatu* and *Pitika* caused due to *Shukradhatumala*⁴ while *Bhavaprakasha* mentioned due to *Svabhava*. *Mukhdushika* also called as *Yuvanpitika*⁵ means found in young age. In *Ayurveda* this disease has been described under *Kshudra Roga*. *Kshudra* means minor as they are of lesser severity in comparison to *Mahavyadhis* i.e.

major and *Vyadhis* i.e. medium diseases.

Mukhdushika appears due to *Dosha* and *Dhatu Dushti* in the form of small *Pitika*'s on face, forehead, chin, nose⁶.

***Mukhdushika*:-**

***Poorvarupa* (Pre symptoms):** The unexposed symptoms of the disease which is to come earlier are called *Poorvarupa*. The appearance of *Utsedha* on *Nasa* and *Kapola*, *Lalima*, *Shula*.

***Rupa*:** The exposed symptoms of the disease are called *Rupa*. Presence of *Pitika* on *Nasa*, *Kapola* and *Mukhpradesha* like *Shalmali* thron, *Shotha*, *Stravayukta* or *Stravarahita*, *Sashula* or *Shularahita*, *Daha*, *Sparshasahatva*, *Kandu*.

General mode of treatment:

- 1) *Shaman*
- 2) *Shodhana*

Shodhana⁷:-

- Vamana
- Nasya
- Vasti
- Virechan
- Raktamokshana

Shaman: -

- a) Sthanika Lepa
- b) Ayurvediya oral treatment

From which Vamana is a process by which Doshas are removed from the Urdhwabhaaga i.e. from the mouth. It is a

Study Design:-

A clinical study conducted in the Panchkarma department of our college

Screening of subjects for inclusion

Counselling and informed consent

Initial assessment – Snehapana

Intervention – Vamana Karma done

Final assessment

Statistical analysis

Conclusion

type of Urdhwabhaaga Shodhana. The endotoxins (vitiated Kapha and Pitta) which are present in stomach, in cells and tissues of entire body are eliminated by the Vamana therapy.

Aim: - "To Study the effect of Vamana karma in Mukhdushika"

Objectives: -

- 1) To evaluate the effect of Vamana Karma in Mukhdushika
- 2) To study the Mukhdushika in detail.

Study population: Teenager's (12 – 30 years) with symptoms of Mukhdushika

Inclusion Criteria:-

- 1) Ambulatory of both sex in the age cadre of 12 – 30 years
- 2) All the patients had complaint of Pitikotpatti, Vaktrasnigdhatta, Mukhvaivarnya

Exclusion Criteria:-

- 1) Patients of <12 years and >30 years were excluded.

Materials and Method:-

Materials⁸:-

- 1) Ghrut – 250ml
- 2) Saindhav Lavana – 100gm
- 3) Madan Phala Pippli Churna -10 to 20 gm

4) Vacha Churna – 10gm

5) Yastimadhu Churna – 100gm

6) Luke warm water

7) Bashpa Swedana Yantra

8) Two measuring glasses

9) Two plastic glasses

10) Chair for sitting (Vamana Chair)

Method:-

Poorva Karma⁹:-

Patient asked for Snehapana. For Snehapana Mahatiktak Ghrut was selected. Snehapana was started with Hruseeyasi Matra i.e. 30ml and gradually increases to 60ml, 90ml, 120ml, 150ml, 180ml and 210ml totally for 3 or 5 or 7 days according to patients Koshta and Agni.

Table -1

Snehapana days	Patients number
3 days	15
5 days	10
7 days	5
Total patients	30

After *Samyak Snigdha Lakshanas* were found in the patient next day he asked to take *Kaphotkleshak Ahara* i.e. diet with sweets curd, *Puree, Khichdi, Shrikhand, Rabadi* etc. in the afternoon evening without disturbing the digestion. On the same day the patient was given massage and *Baspa Swedana* in the morning and evening.

Pradhana Karma¹⁰:-

After performing *Dhanvantari Pooja*, *Vamana* drug were administered according to the patient's physical and psychological condition. After 15-30 min. patient gets *Vamana Vegas* and observed the following *Samyak Vamana Lakshanas*.

Vamana Symptoms:-

1) **Laingiki¹¹ :-**

- a) Lightness of the body
- b) *Indriya Prasannata*
- c) *Vegas* stops automatically

Table - 2: - Sansarjana Krama¹⁶:-

Day	Annakala	Pravara Shuddhi	Madhyam Shuddhi	Avara Shuddhi
1 st Day	Morning	-	-	-
	Evening	<i>Peya</i>	<i>Peya</i>	<i>Peya</i>
2 nd Day	Morning	<i>Peya</i>	<i>Peya</i>	<i>Vilepi</i>
	Evening	<i>Peya</i>	<i>Vilepi</i>	<i>Krita Yush</i>
3 rd Day	Morning	<i>Vilepi</i>	<i>Vilepi</i>	<i>Krita Mansrasa</i>
	Evening	<i>Vilepi</i>	<i>Akrita Yush</i>	<i>Samanya Bhojan</i>
4 th Day	Morning	<i>Vilepi</i>	<i>Krita Yush</i>	
	Evening	<i>Akrita Yush</i>	<i>Akrita Mansrasa</i>	
5 th Day	Morning	<i>Krita Yush</i>	<i>Krita Mansrasa</i>	
	Evening	<i>Krita Yush</i>	<i>Samanya Bhojan</i>	
6 th Day	Morning	<i>Akrita Mansrasa</i>		
	Evening	<i>Krita Mansrasa</i>		
7 th Day	Morning	<i>Krita Mansrasa</i>		
	Evening	<i>Samanya Bhojan</i>		

- d) Lightness in chest and other regions
- e) Feeling happy

2) **Vegiki¹² :-**

- a) *Pravara Shuddhi* – 8 *Vegas*
- b) *Madhya Shuddhi* – 6 *Vegas*
- c) *Avara Shuddhi* – 4 *Vegas*

Maniki¹³: The input and output of the vomitus measured or weighed.

- a) *Pravara* – 2 *Prasth*
- b) *Madhya* – 1.5 *Prasth*
- c) *Avara* – 1 *Prasth*

3) **Antiki¹⁴**: “*Pittantamistham Vamanam*” *Pitta* was come out at last.

From above observations - 18 patients shows *Pravara Shuddhi*, 10 patients shows *Madhyam Shuddhi* and 2 patients shows *Avar Shuddhi*.

Paschat Karma¹⁵:-

After *Samyak Vamana* the patient has been given *Dhumpan* by *Dhumvarti* which is made by *Haridra + Ghrut* after that patient advised to take complete rest physically and mentally. Digestive power becomes very weak after *Vamana* treatment due to this patients were allowed to follow *Sansarjana Krama*.

Criteria for assessment of result:-

Subjective criteria's:-

- 1) *Mukhpradeshi Pitika*¹⁷ (in numbers)
(No. of acne on face)
- 2) *Mukhvaivarnya*¹⁸ (Discolouration of face)
- 3) *Vaktrasnigdhatta*¹⁹ (Oily skin)
- 4) *Kandu*²⁰ (Itching)

- 5) *Lalima*²¹ (Redness)

Objective criteria:-

- 1) *Shohta*²² (Swelling) (measures in mms)
– The regular compass scale was used to measure the size of *Shohta* in millimetres before and after the treatment, so that the change or alteration should be noted.

Table - 3:- Gradation table for subjective criteria's:-

Sr. No.	Sign and Symptoms	Normal (0)	Mild (1)	Moderate (2)	Severe (3)
1	<i>Mukhpradeshi Pitika</i> (in numbers)	No <i>Pitika</i> (0)	1 – 3 (1)	4 – 9 (2)	More than 9 (3)
2	<i>Mukhvaivarnya</i>	No <i>Mukhvaivarnya</i> (0)	1	2	3
3	<i>Vaktrasnigdhatta</i>	No <i>Vaktrasnigdhatta</i> (0)	1	2	3
4	<i>Kandu</i>	No <i>Kandu</i> (0)	1	2	3
5	<i>Lalima</i>	No <i>Lalima</i> (0)	1	2	3

Table - 4:- Gradation table for objective criteria:-

Grade	Score
Normal	No <i>Shohta</i>
Mild	<i>Shohta</i> of 0.1 – 0.7 mm in size
Moderate	<i>Shohta</i> of 0.8 – 1.4 mm in size
Severe	<i>Shohta</i> of 1.5 – 2 mm in size

Observations:-

In this 30 patient's of *Mukhdushika* were registered and all the patients completed the full course of treatment. So, observations made in all these patients are recorded here.

Table - 5:- Deha Prakruti wise distribution:-

Deha Prakruti	No. of patients	%
<i>Kaphapittaj</i>	8	27%
<i>Kaphavataj</i>	7	23%
<i>Pittavataj</i>	15	50%
Total	30	100%

Table - 6:- Age wise distribution:-

Age	No. of patients	%
12 – 20 years	14	47%
21 – 30 years	16	53%
Total	30	100%

Table - 7:- Gender wise distribution:-

Gender	No. of patients	%
Male	15	47%
Female	16	53%
Total	30	100%

Table - 8:- Religion wise distribution:-

Religion	No. of patients	%
Hindu	24	80%
Muslim	6	20%
Total	30	100%

Table - 9:- Socio-economic status distribution:-

Socio-economic status	No. of patients	%
Rich	3	10%
Middle	20	67%
Poor	7	23%
Total	30	100%

Table - 10:- Diet wise distribution:-

Diet	No. of patients	%
Vegetarian	9	30%
Mixed	21	70
Total	30	100%

Table - 11:- Table showing result of Vamana karma on Mukhdushika:-

Sign & symptoms ↑ ↓	Mukhprades hi Pitika (in numbers)		Mukhvai varnya		Vaktrasnigd hata		Kandu		Lalima		Shotha	
	B. T	A. T	B. T	A. T	B. T	A. T	B. T	A. T	B. T	A. T	B. T	A. T
Normal	0	10	0	20	5	19	10	20	13	25	10	25
Mild	12	10	16	6	15	8	12	9	8	5	8	3
Moderate	10	8	10	4	6	2	6	1	8	0	4	2
Severe	8	2	4	0	4	1	2	0	1	0	8	0

DISCUSSION

Because of excess stress, diet pattern, pollution the percentage of Mukhdushika increasing day by day. This affects mainly on face and indirectly on personality of a person. In Mukhdushika vitiation of Kapha, Vata and Rakta are takes place. Ancient Acharyas have suggested Vamana treatment mainly on

Kapha & Apakva Pitta. Hence Vamana procedure was given to patients.

Vamana Dravya's are having the characters of Vyavahi (Diffuse) and Vikasi (Spreading nature) by Virtue of Veerya (Potency) they get quickly circulated into large and small capillaries of the body. It invades all over the body by Virtue of its Ushna (Hot) and Teekshna (Acute)

properties. The accumulated *Doshas* get liquefies and breakup into small pieces at cellular level. *Sukshma Guna* and *Anupravana* properties the *Malas* or *Doshas* float because already body has got *Samyak Snigdhatata* and pass through smallest capillaries and ultimately reaches to stomach. *Vamana Dravyas* are predominant of *Agni* and *Vayu Mahabhutas*. When patient feels nausea it indicates the *Doshas* are *Urdhwagami* and he gets *Vamana Vega*. *Vamana* eliminates vitiated *Doshas* from *Urdhwabhaaga* and all the six criteria's for observations *Mukhpradeshi Pitika* (in numbers), *Mukhvaivarnya*, *Vaktrasnigdhatata*, *Kandu*, *Lalima*, *Shohta* (in mm) were found to reduce tremendously after *Vamana Karma*.

CONCLUSION

The Conclusion thus drawn were as follow 30 patients of *Mukhdushika* were studied in this series out of which maximum 16 patients were of 21-30 years age group (53%), female (53%), socio-economic status- middle class (67%), *Pittavataj Prakruti* (50%), mixed diet wise (70%), *Hindu* religion (80%). All the patients showed *Samyak Snehana*, *Swedana* and *Vamana Lakshanas* within prescribed time. 25 patients showed *Madhyama Shuddhi* and 5 patients had a *Pravara Shuddhi*. After *Vamana Karma* there was significant reduction in the sign & symptoms of *Mukhdushika* (Table no.9) i.e.

- 1) *Mukhpradeshi Pitika* – 33.33%
- 2) *Mukhvaivarnya* – 66.67%
- 3) *Vaktrasnigdhatata* – 43.33%
- 4) *Kandu* – 66.67%
- 5) *Lalima* – 70%
- 6) *Shohta* – 83.33%

Hence it is concluded that *Vamana* is highly effective in the management of *Mukhdushika*.

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CONCEPTUAL STUDY OF "GARVISHA"

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ABSTRACT

Ayurveda can be defined as system which uses the inherent principals of nature to maintain health in person by keeping individual's body, mind and spirit in perfect equilibrium with nature .Thus, In *Ayurveda Acharya* explained spectrum of *Garvisha* concept in many ways as important concept related in *Agad Tantra*. In *Ayurveda* the *Garvisha* is considered as one of the form of *Kritrimvisha* which gets formed by combination of two or more than two poisonous or non-poisonous drugs and ultimately affects the whole body by vitiating all the *dhatu*s in the body. It can go to such extent that it can alleviate the *dhatu*s drastically which in turns could prove to be fatal. *Agad Tantra* has explained *Garvisha* (Artificial poisons)with equally importance to natural poisons i.e. *Sthavar* and *Jangamvisha*.Detailed explanation of this poison ,its definition ,sign and symptoms, mode of administration and treatment has been described in detail. This study also aims to establish that *Garvisha* has significant role in causing toxic symptoms due to its various uses in present society and *Ayurveda* offers effective management.

Keyword: *Garvisha, Sthavarvisha, Jangamvisha, Ayurved, Agad Tantra.*

INTRODUCTION

"*Ayurveda*" is an ancient holistic medical system that originated in India. It is considered as the *upveda* of *Athervaveda*. *Agad Tantra* is one of the branches of *Ash-tang Ayurveda*. The word "*Gada*" literally means a disease, pain or a poison; therefore *Agad* stands for something which meant for defend of a disease or to combat to toxin. *Agad Tantra* is the science which deals with the study of the poisons, their action, their detection and treatment. *Visha* is the substance which immediately after entering into the body causes the vitiation of the healthy

*dhatu*s or killing of the healthy person is defined as *visha*. *Visha* causes sadness to the world¹. It creates depression and sorrow in the body and mind. *Garvisha* is the toxic combination of poisonous or non-poisonous substance² Poison is a substance which when administered, inhaled or ingested incapable of acting deleteriously on human body and hazardous damage to vital organs and *garvisha* one of them which explained in following below. *Kritrimvisha* is called as *garvisha* according to *vagbhatta*³

AIMS AND OBJECTIVES:

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1. To study the concept of *Garvisha* according to *Ayurveda*.

2. Collect and arrange all the scattered references according to *Ayurved samhita*.

MATERIALS AND METHODS:

-The whole study is based on literary review collected from *Ayurved Samhita*

- Thus study is carried out under following heads

1. *Nirukti*. [Derivation]

2. *Paribhasha*. [Definition]

3. *Garvisha prayog* [Method of poisoning]

4. *Garvish lakshana* [Features of *garvisha*]

5. *Sadyaasadyatv* [Prognosis]

6. *Garvish chikitsa* [Treatment]

NIRUKTI: The 'Gara' word is derived from the root word *gru* with suffix *ach* which means to digluted or could be digluted which generally indicates the liquid form. From one aspect this word (*Gara*) meaning also come as poison⁴.

PARIBHASHA: CHARAK SAMHITA: *Gara* is a toxic combination of poisonous or non-poisonous substance and which exerts toxic effect after interval of some time and as such does not kill the patient instantly⁵.

In addition to *sthavar* and *jangamvisha* there is one another type of poisons *samyogajvisha* which is called *Garvisha*⁶. It creates many disease, *Garvisha* are not to digested they take long time to digest hence they are not fatal.

SHUSHRUT SAMHITA: The pulverized bodies of insect poisoning, as they do, the characteristic features of *Dushivisha* or enfeebled poison [laying inherent in human system] is turned into a *Gara* or chemical poison if administrated internally with any medicine or externally with any plaster/*lepa*⁷.

VAGBHATA SAMHITA: Combination of parts of the body and excreta of different

animals, incompatible drugs, ashes and poisonous substance of mild potency is known as *Garvisha*⁸.

Vagbhatta classified poison into two types. One is the *Akritrimvisha* [natural poison] and this subdivided into two i.e. *sthavaram* and *jangam*. The other one is the *kritrimvisha* which is called as *Garvisha*⁹ [unnatural or chemically prepared poison].

BHAVPRAKASH: *Bhavprakash* classified the *kritrimvisha* in different manner. The *kritrimvisha* is one which is prepared by non-poisonous substance called as *garvisha* and another which is prepared by poisonous substance is called as *Dushivisha*¹⁰.

YOGRATNAKAR: *Yogratnakar* also classified the *kritrimvisha* in two one which is prepared by combination of two poisonous substances called *dushivisha*. And other which is prepared by combination of two non-poisonous substances called as *Garvisha*¹¹.

SHARANGDHAR SAMHITA: *Sharangdhar* classified *KritrimVisha* in to two types, one of them is *Garvisha* and other is *Dushvisha*. *Dushvisha* is prepared by the combination of two poisonous substances and *Garvishais* prepared the by combination of two non-poisonous substances.¹²

MADHAVNIDANA: *Madhavnidhana* classified *Sanyogajvisha* in to two types, one is *Kritrimvish* which is prepared by poisonous substance and other is *Garvish* which is prepared by nonpoisonous substance.¹³

CHAKRAPANI: In his commentary he described the *samyogajvisha* is one of two types one which is prepared by non-poisonous substance called as *Garvisha* and another one which is prepared by poisonous substance called as *kritrimvisha*.¹⁴

GARVISH PRAYOG [METHOD OF POISONING] : *Charakacharya* describe

that women serve food mixed with their sweat, menstrual blood or different type excreta of their body to gain favor from their husband or under the influence of enemies they may administered *Garvisha* along with food.¹⁵ In the ancient time *Vishkanya* were also used in such way.¹⁶

Vishkanya: *Vishkanya* were young women reportedly use as assassins, often against powerful enemy, during the time of ancient Indian subcontinent.

Young girls were raised on carefully crafted diet of poison and antidote from a very young age.¹⁷ Their body fluids would be poisonous to others sexual contact would thus be lethal to other humans. There also exists that *vishakanya* can cause instant death with just a touch.¹⁸

According to *Aacharya Vagbhatta Virudha haaahar* act as *garvisha*.¹⁹

LAKSHANA OF GARVISHA: According to *yogratnakar* the appearance of symptoms after the intake of *garvisha* within 15 days to 1 month.

-Laziness, -heaviness, -cough, -dyspnea, -loss of strength, -hemorrhage, -edema, -yellow discoloration of eyes²⁰

Due to *Garvisha* following disease are appear- *pandurog*, *krushta*, *mandagni*, pain in *marm-*

sthan. *adhman*, *grahani*, *yakshma*, *gulm*, fever.²¹

CHARAK: -Body become pale and weak

-poor digestion, -flatulence, -*udarrog*, -edema on limbs, -*grahani*, -*rajyakshma*, -*gulma*

-in dreams he mostly sees cats, jackals, moongos, monkey, dried rivers and trees.

-in dreams having lost his sense organs, he sees himself as fair complexion or devoid of ears and nose.²²

According to *Vagbhatta*: - edema, - *udarrog*, - *unmad*, -*pandurog*, -*mandagni*, -*adhman*, -increase the length of leaver stomach & spleen, -*dhatukshaya*²³

SADHYA ASADHYATWA [PROGNOSIS]

The patient of artificial poisoning dies very soon who does not get immediate treatment.²⁴

GARVISH CHIKITSA

1. **ASSESSING THE PATIENT:** *Garvisha* is often eaten unknowingly hence the patient does not feel anything amiss, immediately and can be treated at the onset of symptoms. If doctor suspect poisoning before starting the treatment the physician should examine and should ask as to what when and with whom he has eaten. After obtaining the information he should start a treatment.²⁵
2. **TREATMENT.** According to *charak*
 - a) *shodhana*: after assessing the patient immediately give *vaman* [emetic] therapy by the physician.²⁶ For that should be administered fine powder of copper along with honey for cleansing the heart [*hrudayashuddhi*]
 - b) *suvarnaprash*: after *hrudayashuddhi* the patient should be given one *shana* of the powder of *suvarna* [gold]. *Suvarna* controls all poisons & poisonous combinations. Poison does not adhere in the body on taking *suvarna* like water on lotus leaf.²⁷
 - c) Gold supposed to be the best medicine for *garvisha*
 - d) *Agadpana*: buffalo ghee cooked with *nagdanti*, *trivittit*, *dantidravanti*, milk latex of *snuhi* and *madanfala* along with one *adaka* of cow's urine is useful in curing patients suffering from the poisons of snake's insects and from *gara*.²⁸

ACCORDING TO VAGBHATTA

Patient of *garvisha* immediate give *vaman* after that give proper diets. *Vagbhatta* has quoted the following *yogas*.

1. *Sharkara suwarnadi leha*

Suwarna *makshika* and *suwarnabhasma* when given with sugar and honey cure *garvisha*.²⁹

2. Treatment of *mandagni*

The powder of *murva*, *amruta*, *tagar*, *pipli*, *patol*, *chavya*, *chitrak*, *vacha*, *musta*, *vidanga* mixed with either butter milk, warm water, water of curds, meat soup or sour liquid should be consuming by the patient having digestive fire destroyed by artificial poisoning.³⁰

3. Treatment of pain, *trushna*, *kas*, *shwas*, *hikka*, *jwar updrava-ghruta* and *trifala* juice with *makoy* shake- *shwas kas nashak*.

-decoction prepared from the meat of the pigeon, *shathi* and *pushkar mul* cooled and consume.³¹

4. Treatment in damaged skin

Apply *lepa* of *renuka*, *chandan*, *priyangu*, *khas* on skin.³²

5. Treatment of *ojkshaya*

Ubtan of *manjishta*, *apamarg*, *neem*, *haldi*, *pipal* and *chandan*.³³

6. Milk and ghee is supposed to be the best diet in *garvisha*.³⁴

YOGRATNAKAR: *Yogratnakar* quoted two *Garvishnashak Yogas* for *Garvisha Chikitsa*

1. *PutrajivmajjaYog*.

2. *Garnashanras*.³⁵

DISCUSSION AND CONCLUSION:

From all above information we can conclude that *samhita* defines *sthavar,jangam* and *kritrimvisha*. *Kritrimvisha* classified into two one is *dushivisha* and second is *garvisha*. In that *garvisha* is toxic combination of poisonous substance or non-poisonous substance and which exert the toxic effect after interval of some time and such not kill the patient instantly. *Garvisha* has significant role in causing toxic symptoms due to its various use in present society for

example consumption of *VirrudhaAahar* and *Ayurveda* offers effective management on it.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Importance Of Doing Daily Abhyanga (Oil Massage)

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Abstract-

*An Ayurvedic recommendation is the daily oil massage, called Abhyanga in Sanskrit. Literally, Abhyanga means, smearing the body with unctuous or oily substance. The purpose of daily oil massage is to balance the nervous system, prevent physiological imbalances and to lubricate and promote flexibility of the muscles, tissues, and joints. The classical texts of **Ayurveda** also indicate that daily massage promotes softness, youthfulness and luster of the skin. Accumulated stress and toxins in the mind and body dissolve during the daily massage in the form of improve lymphatic drainage and to improve blood circulation. A daily full-body warm oil massage therefore acts as a powerful recharger and rejuvenator of mind and body. While the tradition of Ayurveda is full of many types of massage and many benefits are mentioned.*

Keywords- Massage, Abhyanga

Abhyanga — the ayurvedic oil massage — is an integral part of the daily routine recommended for overall health and well-being. The Sanskrit word sneha means both “oil” and “love,” and the effects of abhyanga are similar to being saturated with love. Both experiences can give a deep feeling of stability, warmth and comfort. Sneha – oil and love – is sukshma, or “subtle.” This allows it to pass through minute channels in the body and penetrate deep layers of tissue.

Ayurveda teaches that there are seven dhatus, or layers of tissue in the body. Each is successively more concentrated and life-giving. It is taught that for the effects of sneha to reach to the deepest layer, it should be massaged into the body for 800 matras, roughly five minutes. If we consider that the entire body needs this kind of attention, a 15-minute massage is the suggested minimum amount of time.

The Benefits Traditionally Associated With Regular Performance Of Abhyanga.

- Nourishes all parts of the body
- Increased circulation, especially to nerve endings
- Toning of the muscles and the whole physiology
- Calming for the nerves
- Lubrication of the joints
- Increased mental alertness
- Improved elimination of impurities from the body

- Softer, smoother skin, enhances the complexion
- Increased levels of stamina through the day
- Better, deeper sleep at night

Abhyanga provides the means for transdermal absorption of the healing qualities of the material used in the massage. It helps the skin to perform its diverse functions efficiently. Functions of skin are allowing toxins to be released from the body or nourishment to be absorbed by the tissues. It is like oiling the engine of your car — if you do it regularly, your engine will be in peak condition, and give you years and years of trouble-free performance.

The ayurvedic massage is traditionally performed in the morning, before your bath or shower, to facilitate the release of toxins that may have accumulated during the previous night. You can use cured sesame oil, herbalized massage oil.

If we choose sesame oil, Sesame oil contains antioxidant properties, and is helpful in protecting the skin from free radical damage. It is considered highly nourishing for the physiology.

How Is The Ayurvedic Abhyanga Done?

1. **Head Massage:** Heat ¼ cup of sesame oil to slightly above body temperature. Start by massaging the head. Place a small amount of oil on the fingertips and palms and begin to massage the scalp vigorously. The massage for the head and for the entire body should be with the open part of the hand rather than with the fingertips. Since the head is said to be one of the most important areas to be focus on during Ayurvedic Daily Massage, spend proportionately more time on the head than you do on other parts of the body.
2. **Face and Ears:** Next, gently apply oil with the open part of the hand to your face and outer part of your ears. You do not need to massage these areas vigorously.
3. **Neck:** Massage both the front and back of the neck, and the upper part of the spine. Continue to use your open hand to rub the neck.
4. **Body Application:** You may want to now apply a small amount of oil to your entire body and then proceed with the massage to each area of the body. This will allow the oil to have maximum amount of time in contact with the body.
5. **Arms, Hands and Fingers:** Next massage your arms. The proper motion is back and forth over your long bones, and a circular motion over your joints. Massage both arms, including the hands and fingers.
6. **Chest and Abdomen:** Now apply oil to the chest and abdomen. A very gentle circular motion should be used over your heart. Over the abdomen, a gently circular motion should be used, following the bowel pattern from the right lower part of the abdomen, moving clockwise up, over, and down towards the left lower part of the abdomen.
7. **Back and Spine:** Massage the back and spine. There might be some areas which you may have difficulty reaching.
8. **Legs:** Massage the legs. Like the arms, use a back and forth motion over the long bones and a circular motion over the joints.
9. **Feet:** Lastly, massage the bottoms of the feet. The feet are considered especially important, and proportionately more time should be spent here than on the other parts of the body. Use the open part of your hand and massage vigorously back and forth over the soles of the feet.

This completes the abhyanga. Ideally, about 10-20 minutes should be spent each morning on the massage. However, if this time is not available on a particular day, it is better to do a very brief massage in the shower than to skip it altogether.

Contraindication To Daily Massage-

- 1. During the menstrual cycle-** Massage with deep pressure during the menstrual cycle is not advised in Ayurveda, as it can initiate a release of ama (toxins) from deep tissues at a time when the body is already a bit taxed. Some women don't like to stop abhyanga during their cycle because they have very dry skin. If you choose to do it during your cycle, it is best to apply the oil gently and for only about 5 minutes.
- 2. During pregnancy-** The reasoning is similar here. It is not a good idea to stimulate any sort of detox process during pregnancy. This precaution protects the growing embryo and fetus against any unnecessary exposure to ama.
- 3. Over swollen, painful areas or masses on the body**
(Or do so only with the knowledge and consent of your health-care practitioner).
- 4. Over infected or broken skin**
- 5. When there is high ama or great physical discomfort-**
A thick, white coating on the tongue often indicates high levels of ama.
- 6. During any sort of acute illness such as fever, chills, flu, or acute indigestion**
- 7. Directly after taking emetics or purgatives**

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

आरोग्यपूर्ण जीवन अर्थात उत्तम मानसिक स्वास्थ्य

वैद्य सुलक्षणा अ. सोनावणे.

M.D.(Third year)

CSMSS Ayurved College ,Aurangabad

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Research Guide,

CSMSS Ayurved College, Aurangabad

आयुर्वेदाचे इतर चिकित्सा शास्त्रांपेक्षा असणारे महत्वाचे वेगळेपण म्हणजेच या शास्त्रात नेहमी शरीर व मन यांचा साकल्याने विचार केला आहे. निरोगी राहण्यासाठी मनही निरोगी असणे अतिशय आवश्यक आहे. त्यामुळेच ग्रंथकार व्याधिच्या अधिष्ठानामध्ये मन व शरीर या दोहांचा उल्लेख करतात.

“ तेषां कायमनो भेदादधिष्ठानपि द्विधा |” अ.ह.सू.१/२१

तसेच स्वथाची व्याख्या देखील,

“ प्रसन्नत्मेन्द्रिय मनः।” सु.सू.१५/४८

अशीच केली आहे. मनुष्य निरोगी आयुष्य कसे प्राप्त करू शकतो याचे वाग्भटाचार्य उत्तम प्रकारे वर्णन करतात,

नित्यं हिताहाविहार सेवी समिक्ष्यकारी विषयेष्वसक्तः।

दाताः समः सत्यपर क्षमावान आप्तोपसेविच भवत्यरोगः। अ.ह.सू.४/३६

श्लोकाची सुरुवातच ग्रंथकारांनी नित्य या शब्दाने केली आहे. याचाच अर्थ सातत्य खुप महत्वाचे आहे. कोणतीही गोष्ट जर सातत्याने करत राहिलो तर त्याचा उपयोग चांगल्याप्रकारे होतो.

हिताहार-

हितकारक आहार हा नियमित घ्यावयाचा असतो. आहार हा प्रत्येकाच्या प्रकृतिनुसार भिन्न असतो. त्यामुळे प्रकृतिनुसार योग्य आहार हाच योग्य आहार आहे.

उदा. अतिशय गोड खाणे वात प्रकृतिला हितकारक ठरू शकते पण कफ प्रकृतिला नाही. आणि त्यामुळेच आहाराचा विचार करतांना चरकाचार्य सांगतात,

“आत्मानाम् अभि समिक्ष्य सम्यकं” च.वि.१/२४

जेवणातील पदार्थ सात्विक असे असतील तर शरीराला कमी पिडा होते. कारण आहाराचा मनावर देखील परीणाम होतो. आहार नेहमी सहारसांनी युक्त असावा.

“नित्य सर्व रसाभ्यासः”

सर्व रसाभ्यासाने धातुंची योग्य वाढ होते, परंतु हे रसदेखील ऋतुला अनुसरून व प्रकृतिला योग्य असेच कमीअधिक प्रमाणात घ्यावेत, तरच ते अमृताप्रमाणे फलदायी होतात. हिताहाराचे वर्णन करतांना चरकाचार्य सांगतात, जेवण गरम, स्नेहयुक्त असावे, योग्यजागी, योग्य अशा भांड्याची योजना करून, न हसता, न भांडता, अति घाईने वा अति सावकाश करू नये. जेवतांना जेवणाकडे पूर्ण लक्ष द्यावे. { टि.व्हि., वर्तमानपत्र, मोबाइल इ. बघत जेवू नये. } अशाप्रकारे घेतलेले अन्नच उत्तम आरोग्य टिकवते.

विहार-

आपले दैनंदिन व्यवहार यांत येतात.अर्थात लवकर उठणे,मलमुत्र विसर्जन,दंतधावन,अंजन,गंडुष,अभ्यंग,व्यायाम इ, तसेच आपले दिवसभरातील आचरण देखील हितकारक असावे.

समिक्ष्यकारी-

आरोग्याचे नियम सम-इक्ष पध्दतीने. पाळणे,दोषानुसार,प्रकृतिनुसार ,ऋतुनुसार जो आपले आचरण ठेवतो तो नेहमी निरोगी राहतो.

विषयेषु असक्त-

विषयांना धरून न राहणारा मनुष्य नेहमी निरोगी राहतो. शरीरात ११ इंद्रिये आहेत. पंचज्ञानेंद्रिय (कर्ण,नासा,त्वचा,नेत्र,जिह्वा) तसेच पंचकर्मेंद्रिय(हस्त ,पाद,वाक,स्पर्श,उपस्थ) व मन.मन हे ज्ञानग्रहण करते व कार्य करण्याला प्रवृत्त करते.या दश इंद्रियांचे जे विषय आहेत त्यांना धरून न राहणारा नेहमी निरोगी असतो. उदा.नेत्र -टि.व्ही.,मोबाइल,लॅपटोप इ. कर्ण-सतत फोन वर बोलणे,हेडफोन ने गाणी ऐकणे. जिह्वा-. सतत वेगवेगळ्या चवीचे पदार्थ खाणे.नासा-सतत वेगवेगळे वास घेणे.त्वचा-वेगवेगळ्या क्रिम वा साबण वापरणे. हस्त-अति प्रमाणात कष्ट करणे. पाद-अति चालणे. वाणी-अति प्रमाणत बोलणे,मोठ्याने बोलणे.स्पर्श-अति उष्ण वा अति थंड संपर्क.उपस्थ- अतिप्रमाणात संभोग.

दान-

दान हे मनाच्या आरोग्याकडे जाते.दान याचा अर्थ त्याग देखील आहे. “दानं हस्तस्य भुषणं”अर्थात दान हे हाताचे आभुषण आहे.पुर्वी अन्नदान,गोदान,विद्यादान असे दान केले जाई.सध्य काळात आपण नेत्रदान,रक्तदान,देहदान असे देखील दान करून आत्मिक समाधान मिळवू शकतो.

सम-

सर्वांशी सारखी वागणुक ठेवणार निरोगी असतो. “समत्वं योग उच्यते” अर्थात द्वंदाच्या ठिकाणी सारखा भाव ठेवणे.अर्थात गरीब- श्रीमंत,काळा-गोरा,सुख:-दुःख असे द्वंद. यासाठी मनाआचा सत्व गुण अधिक प्रखर असावा लागतो.दुःखाच्या वेळी मनाचा तोल ढळू न देणे वा सुखाच्या वेळी अती हुरळून न जाणे या गोष्टी माणसाने आत्मसात केल्या तरच मनाची स्थिती सम राहते.

विहाराच्या बाबतीतही काल-अर्थ-कर्म यांचा समयोग हा नेहमी आरोग्यादायी असतो.

काल म्हणजे ऋतुनुसार असणारा समयोग.

अर्थ- इंद्रियांनी ग्रहण करण्याची कर्मे अर्थात शब्द,स्पर्श,रूप,रस,गंध यांचा समयोग हा आरोग्यदायक होतो.

कर्म -कायिक,वाचिक व मानसिक हि सर्व कामे हि समदृष्टिने करावीत.

सत्यपरं-

नेहमी सत्य बोलणारा व तसेच आचरण करणारा नेहमी निरोगी राहतो.सत्य बोलण्यात मनाचा सात्विक गुण वाढतो.

लहान मुले नेहमी सत्य बोलतात व त्याचा आनंद त्यांच्या चेहरयावर दिसतो.या उलट खोटे लपविण्यासाठी अनेक गोष्टींची रचना करावी लागते.त्यामुळे शारीरिक,मानसिक संतुलन बिघडुन मनुष्य रोगाच्या आहारी जातो.

“सत्यं कण्ठस्य भूषणं” किंवा “नास्ति सत्य समं तपः।”

सत्यासारखे दुसरे तप नाही.त्यामुळेच निरोगी राहण्यासाठी सत्य आवश्यक आहे.

क्षमावान-

क्षमा याचाच अर्थ ज्याला शिक्षा करण्याचा अधिकार असूनही जो क्षमा करतो तो क्षमावान. अर्थात राजा / जेष्ठ/अधिकारी इ.जर आपल्या अधिकाराचा वापर करुन इतरांना त्रास देत असतील तर नक्कीच हितकारक ठरत नाही.

आप्तोपसेवी-

जो आप्तांची सेवा करतो तो नेहमी निरोगी राहतो.आप्त म्हणजे नातेवाईक एवढाच अर्थ ग्रंथकारांना अपेक्षित नसुन जो रज ,तम यांपासुन मुक्त तसेच तप व ज्ञान यांनी युक्त आहे त्यांना आप्त म्हणावे अशांची सेवा केल्याने आपल्याला आरोग्य लाभते व यांच्या सहवासाने मनावर चांगले संस्कार होतात. वरील सर्व विवेचनावरुन असे लक्षात येते की आपल्या आचर्यांनी निरोगी राहण्यासाठी शरिराएवढेच मनालाही महत्त्व दिलेले आहे.म्हणुनच चिकित्सा करतांना शरिर व मन या दोहोंचा विचार आपण करावयास हवा.

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The Study of Literature Review of Urdhwag Amlapitta according to Shatkriyakal

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Abstract-

The Aim of the present articles to discuss the Samprapti of urdhwag amlapitta according to shatkriyakal. Shatkriyakal is a concept which is described by Acharya sushruta in Vyadhi Nirmiti. The six Avasthas are Sanchay, Prakop,Prasar, Sthansanshrayam, vyakti,Bhed. These six avastha helps to break the samprapti of disease which in case helps in the chikitsa of disease. If we break the samprapti of any disease in prakopadi avastha then the more complication could be avoided and the disease will be suksadhya. In Urdhwag Amlapitta the Pravridha pitta vitiates the kaph and Vata dosha then spreads in whole body and where there is sthana vaigunya the dosh dushya gets ashrited and urdhwag amlapitta is formed. This Urdhwag Amlapitta occurs in adults mostly so this is the valuable topic of concern in present era.

Keywords-Amlapitta,Shatkriyakal,urdhwag amlapitta.

Introduction-

1. Shatkriyakal is a concept which is described by Acharya Shushruta¹. Shatkriyakal means the six stages of formation of disease¹. These stages are called as the six avastha¹. The six avastha are
 1. Sanchay
 2. Prakop
 3. Prasar
 4. Sthansanshrayam
 5. Vyakti
 6. Bhed.

For the chikitsa of any disease we have to break the samprapti of disease, that is why Shatkriyakal is very important role in the management of disease. The six avastha of Shatkriyakal shows the disease in different stages. If we cure the disease in the earlier stage, the disease will be cured fast. The pathogenesis of the disease in the body will not occur. In Ayurvede it is said that the newly formed disease are suksadhya and they are cured fast in sanchayadi avastha as compared to kashtsadhya diseases.

In Shatkriyakal we have to perform the different kriyas for the treatment of disease to avoid the complication of disease, so it is very important to study the disease according to shatkriyakal.

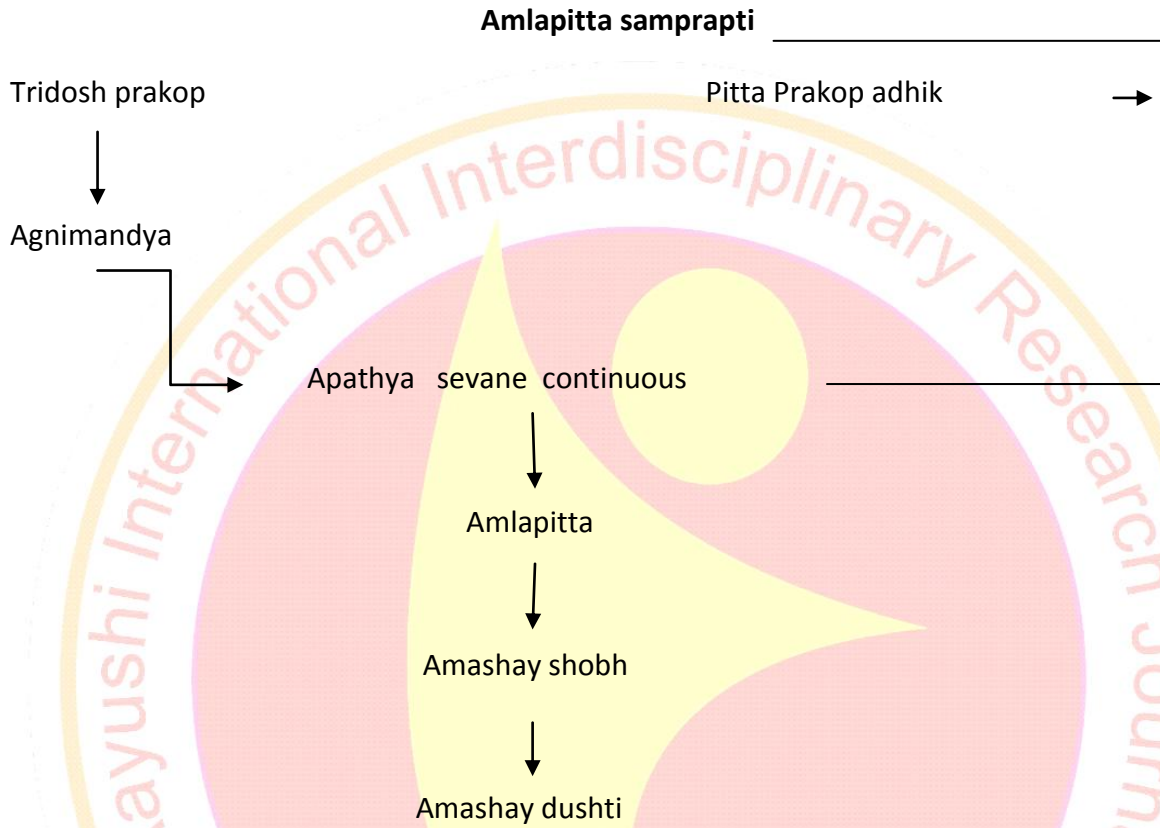
Discussion

Amlapitta is a disease which is described by Acharya Madhavnidan, Kashyap, Yogratanakar, Bhavprakash². Amlapitta is Abhyantar Margag Vyadhi³. It is caused due to intake of Pitta prakopak aahar, ushna, tikshna, amla rasatmak aahar also.

Samprapti of Amlapitta⁴

In common samprapti of Amlapitta, the three doshas are in prakopak stage, but pitta dosh is mainly vitiated by Drav and amla gunas. Due to Vitiated Pitta dosh agnimandya occurs and if the hetus

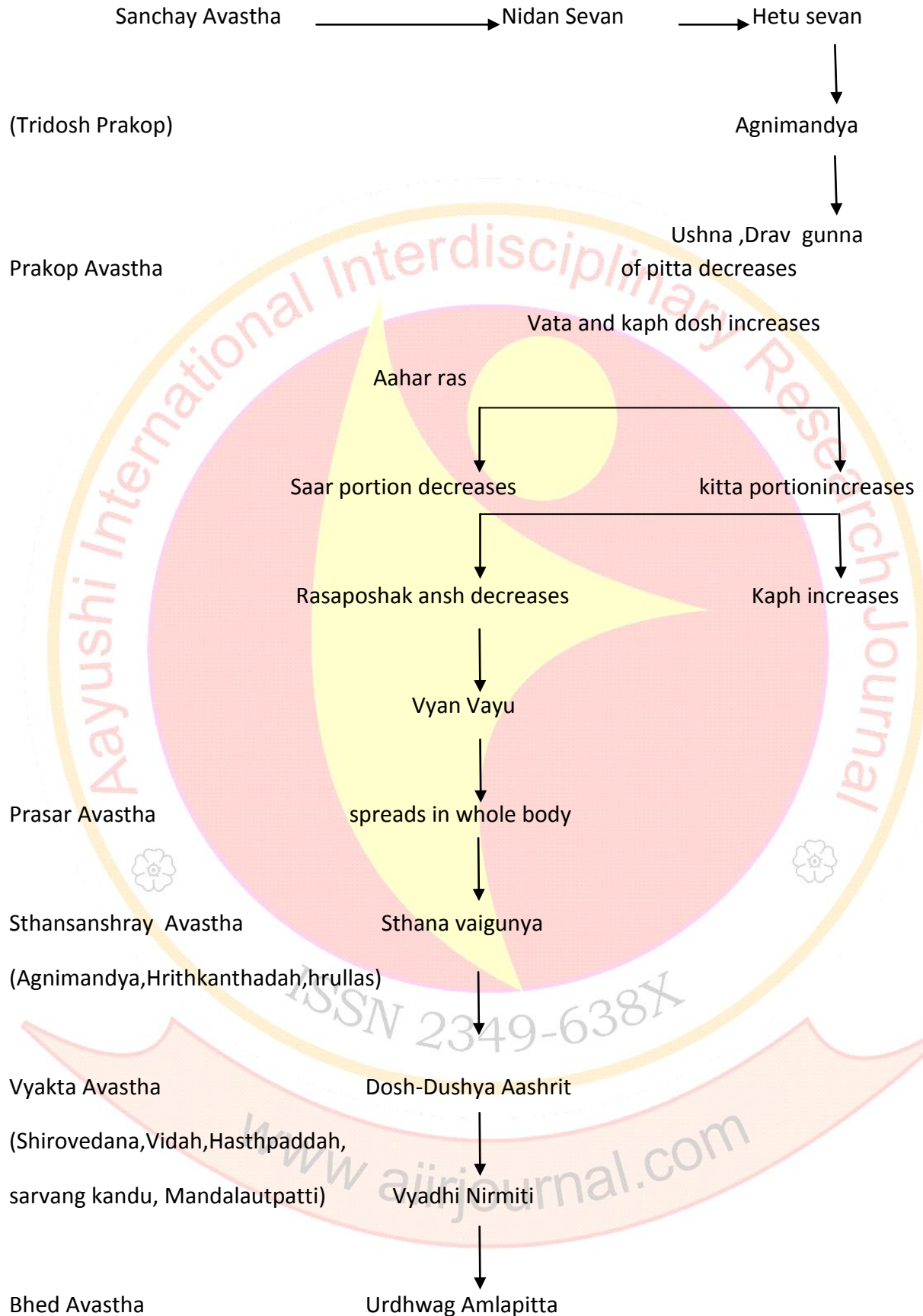
will be continued then the Anna becomes vidagdha. And in Amashay kshobh is nirman and amlapitta Vyadhi is uttapana.



According to gati Amlapitta is divided in 2 types urdhwag amlapitta and Adhogh amlapitta⁵

Samprapti of Urdhwag Amlapitta⁶-

Urdhwag amlapitta is Kaphanubandhi which gets reliefs by vaman and adogh amlapitta by virechana. It is also caused by pitta prakopadi aahar etc. The common clinical feature are nausea, headache, burning sensation in epigastric region. In samprapti of urdhwag amlapitta.



IN Sanchay Avastha, Due to nidan sevana Agnimandya occurs .

In Prakop Avasta , the pitta doshas , ushna and drav gun gets decreased and the vata and Kaph dosh gets increased.

IN Prasar Avastha The ahar gets divided in sar bhag less and kitta bhag more and due to vyan vayu spreads in whole body.

IN Sthansanshrayam and where there is Sthana vaigunya means in urdhwa amashay shobh is nirman.

In Vyakyavastha the Dosh and dushya gets aashrit and in Bhed Avastha Vyadhi is formed that is urdhwag amlapitta .

Conclusion-

By the above Article we can conclude that by Studying Urdhwag Amplapitta according to Shatkriyakal will be beneficial for Diagnosis and management purpose. And will avoid the further complication of urdhwag amlapitta like perforation etc.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Upamana Pramana As A Diagnostic Tool W.S.R.To Mutravikriti

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Abstract

In Ayurveda pariksha is defined as "Pratipattidnyanasya Pariksha".

According to Ayurvedic classics Ragnapariksha is carried out by five types of Pramana i.e. Pratyaksha, Anuman, Yukti, Aapta and Upamana. Out of these, Upamana Pramana is easiest way to memorise and recall diagnostic features because of the similarities between Diagnostic symptoms and naturally occurring objects.

According to Ayurveda Mutra is described as Utsarjit Mala. It is easy to collect and examine Utsarjit things. So here we try to collect the diagnostic features related to Mutravikriti by using Upamana Pramana as a diagnostic tool.

Key Words: - Upamana pramana, Mutravikriti

Introduction

In Ayurveda Pratyaksha, Anuman, Yukti, Aapta and Upamana Pramana are used to examine and diagnose the patient.

According to Nyaya darshana, Upamana (Analogy or Comparison) is the third Pramana. Comparison is the immediate cause of Upamana. In Tarka sangraha it has been stated as follows⁽¹⁾

उपमिती करणं उपमानम् - संज्ञा संज्ञि संबंध ज्ञानमुपमिती: । त.सं.

Upamana is the instrument of assimilative knowledge of correlation present between a name and the object denoted⁽¹⁾. Upamana Pramana is useful in the diagnosis of disease by comparing with familiar object. Hence used as a diagnostic tool in diagnosis of disease.

The act or process of identifying or determining the nature and cause of a disease through evaluation of patient history, examination and review of laboratory data is called Diagnosis and tool in diagnosis is called as Diagnostic tool.

Naturally occurring things are easy to memorise and recall, hence in Ayurveda Acharyas gives Upama of the naturally occurring things to the diagnostic feature of the disease. If we compare the diagnostic symptom of disease with any familiar natural object e.g. काण्डेशुरसंसङ्काशं - इक्षुवालिकामेह it is too easy to remember that symptom of that disease.

In Ayurveda Mutra has its special importance because it is a type Utsarjit Mala and it is easy to collect and examine Utsarjit things. So in Ayurvedic classics Acharyas examine the Mutra by their colour, volume, transparency, and odour for e.g. Bahu Sitam Mutra in Udakameha, Prabhutam Avil Mutra in Prameha, Malagandhi Mutra in Vingvighat etc. This type of examination is used in modern medical sciences also for e.g. Yellowish colour of urine in Hepatitis, Polyuria in Diabetes incipidus and turbid urine in Renal failure, Foul smell of urine in Ketoacidosis, UTI, and Cystitis etc.

So here in this article we try to collect diagnostic features of disease related to *Mutravikriti* in that disease by using *Upamana Pramana* as a diagnostic tool.

Materials and Methods

Materials

- 1) *Charaka samhita, sushruta samhita, Ashtang Hridayam (Bruhat-trayee)*
Text regarding this topic
- 2) *Madhav Nidana, Yogratnakar, like Ayurvedic text* regarding this topic

Method

- 1) Literary study of *Upamana Pramana*.
- 2) Literary study of *Upama* used in *Mutravikriti*.

Discussion

Ayurveda is a science of life close to the nature. In Ayurveda *Upamana* is the instrument of assimilative knowledge of correlation present between a name and the object denoted. *Upamana Pramana* is the research invention originated from natural observation. It is also a good teaching methodology. (In few words it is a short and effective method of teaching). *Upamana* is a comparing technique used to compare name and natural object familiar to it. For e.g.

A) *Upamana* in Embryological concept⁽¹⁾ :-

Sushruta while describing the qualities of *Shukra* states as follows

स्फटिकाभं द्रवं स्निग्धं मधुरं मधु गन्धि च
शुक्रमिच्छन्ति केचित् तैल क्षौद्रनिभं तथा ॥
सु.शा. १

In above example the colour, smell, consistency of *Shukra Dhatu* is compared with *Sphatika*(Alum), *Madhu* (Honey), and *Taila Kshoudra* (Oil and Honey) respectively.

B) *Upamana* in Anatomical concept⁽¹⁾ :- In osteology the *Nalakasthi* and *Kapalasthi* are compared with *Nalaka* and *Kapala* respectively.

C) *Upamana* in Physiological concept⁽¹⁾ :- The *Rakta Samhanana*(Blood Circulation) is compared with *Shabda*, *Archi* and *Jala*. The blood circulates like *Shabda* in all directions, upwards like fire and downward like water.

D) *Upamana* in Pathological concept⁽¹⁾ :- In *Tamaka Swasa* the respiration of patient is compared with the warbling of *Kapota*.

In *Mahaswasa* the *Swasa* is compared with that of *Matta Rishabha* (Furious Bull).

Likewise *Gokshura Katak* used in *Katak* like *Ashmari* used as *Ashmari Beshaja*, *Beejmajja* used on *majja*, *Shalmali katak* used in *katak* in *Tarunya pitika* etc. it is also used in modern science for e.g. haemoglobin is red in colour, it can be raised by red colour fruits like Tomatoes, Beet, Carrots, Apple etc. the *Upamas* related to *MutraVikriti* is as follows.

Upamas related to Mutravikriti^{(2),(3),(4),(5),(6)}

काण्डेक्षुरसंसङ्काशं	इक्षुवालिकामेह
मूत्रं सान्द्रीभवती	सांद्रमेह
शुक्लपिष्टनिभं	शुक्लमेह
शुक्राभं शुक्रमिश्रं	शुक्रमेह
सिकतामेहिनं	सिकतामेह
गन्धवर्णरसस्पर्शैर्यथा क्षारस्तथाविधम्	क्षारमेह
मसीवर्णमजस्रं	कालमेह
चाषपक्षनिभं	नीलमेह
मंजिष्ठोदकसङ्काशं	मंजिष्ठमेह
हरिद्रोदकसङ्काशं	हारिद्रमेह
वसामिश्रं वसाभं	वसामेह
मज्जानं सह मूत्रेण	मज्जामेह
हस्तिमन्त	हस्तिमेह
रक्तपीतशकृन्मूत्रो	बहुपित्तकामला
भस्मोदकप्रतीकाशं	मूत्रशुक्र
हरिद्रमथवा सरक्तं	उष्णवात
रोचनाशंखचूर्णवर्ण	पित्तदोष प्रधान मूत्रसाद
शुष्कं भवति यच्चपि रोचनाचूर्णसन्निभम् शंखचूर्णप्रपाण्डुरम्	कफदोष प्रधान मूत्रसाद
तण्डुलतोयवत्	अजीर्ण
धूमवर्ण	नवज्वर
असृकसदृशं	जीर्णज्वरे

Other than *Mutravikriti* in *Ayurveda* various types of *Upamas* are used for diagnostic features, treatments, synonyms for *Dravyas*, etc. so we promote other researcher to do research on other *Upamas* stated in *Ayurvedic* classics. It is also used in *Upashaya- Anupashayas*(for Prognostic importance).

Upamana Pramana is one of the best communication tools for both Doctor and patient. Patient can use it to explain his complaint and doctor can use it to ask related question to disease. For e.g. Patient explains the colour of urine turmeric yellow or doctor can ask "Is the colour of urine is turmeric yellow?" In *Bahupitta Kamala*.

Conclusion:- *Upamana Pramana* is one of the Effective and Easy method used to diagnose various condition of disease.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Role of Manas Hetu in Grahani W.S.R. To Irritable Bowel Syndrome

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Abstract:-

Grahani is the main site of Agni.¹ Impairment of Jatharagni by various causes such as overeating, unhealthy dietary habits, excessive fasting, vegvidharana produces Grahani disease.² Symptoms of Grahani like alteration in stool either in solid or liquid form, stool mixed with mucus³, etc... are similar with Irritable Bowel Syndrome of modern science. Irritable Bowel Syndrome is the functional bowel disorder. It accounts for approximately 20% population worldwide with female preponderance.⁴ It is stimulated by altered GI motility, abnormal central processing, psychological disturbances, etc... Out of which stress is the main cause. Therapy used for I.B.S. such as stool bulking agents, antidepressants, 5HT3 antagonist, 5HT4 agonist, etc... Have various side effects like bloating, abdominal pain, blurred vision, ischemic colitis, severe cardiovascular events, etc...

Nowadays world is looking forward to Ayurved for safe treatment modalities. So it is essential to find out role of Manas Hetu in Grahani, which would be helpful for better treatment.

Keywords: - Grahani, Irritable Bowel Syndrome, Manas Hetu.

Introduction:-

Chinta, Shoka, Bhaya, Krodha, etc. these are explained to be Manas Bhava in Ayurvedic Samhita, are said to be Manas Hetu and causes disease. Charaka has mentioned that Sharirik and Manas Vyadhi are interdependent i. e. chronic Sharirik Vyadhi can disturb mental health and Manasik Vyadhi can affect Sharirik health.⁵

In Grahani Shoka, Bhaya, Krodha, Chinta, etc... Manas Hetu causes Agnimandya and disturbs normal functioning of Grahani which manifests as altered bowel habits, abdominal pain, nausea, vomiting, etc.. As we go through treatment used for Grahani, emphasis has been given on Agnideepak Dravya, but Agnidushti can occur due to Manas Hetu sevan also. Therefore care should be taken to treat Manas Hetu also. Symptomatically Grahani can be correlated with I.B.S.

I.B.S is the most common chronic non inflammatory condition characterized by abdominal pain, altered bowel habits and bloating, etc. . It encompasses a wide range of symptom and single cause is unlikely. It is generally believed that most patient develop symptoms in response to psychological factors like anxiety, depression, altered GI motility, altered visceral sensation. About 80% patient in general practice shows need of psychiatric referral.⁶

Grahani

Acharya Charaka has stated Grahani as site of Agni, whose main function is Annagrahan situated above umbilicus. It is nourished by strength of Agni. It holds undigested food till proper digestion and then divides (Sara) and worn out material and further helps to eliminate waste product(stool).¹

Healthy dietary habits and good mental status helps to keep Agni and Grahani in normal state , whereas Abhojan(starvation) , Ajirnat bhojan(food intake in state of indigestion) , Atibhojanat (overeating) , vishmashanat (irregular dietary habit) , diet of proper quantity but taken in stressed condition like anxiety , depression , anger , greediness , etc. causes Agnidushti⁷ and as Grahani is site of Agni , chronic Agnidushti affects functions of Grahani . So it affects digestion and produces unmetabolised food which can be termed as Ama. This Ama further interferes with proper formation of Dosha, Dhatu and Mala to manifest with several diseases.

Depending on Dosha Dushti Grahani can be divided as Vataja Grahani, Pittaja Grahani, Kaphaja Grahani, Sannipataja Grahani⁸, Sangraha Grahani and Ghatyantra Grahani. Out of these I.B.S. shows closed correlation with Sangraha Grahani , characterized by Antrakujana(Bloating) , Alasya(Lethargy) , Daurblya(Weakness) , Angasadana(Body ache) , Drava Malapravrutti (Diarrhea) , Ghan Malapravrutti(Constipation/hard stool) , Singdha Malapravrutti(Steatorrhoea) , etc.frequently occurring at interval of 10 , 15 , 30 days or daily . The symptoms occur mostly at day time. As it is chronic, it is said to be difficult for treatment .⁹

Irritable Bowel Syndrome

I.B.S. is functional bowel disorder characterized by abdominal pain or discomfort and altered bowel habits in the absence of detectable structural abnormalities. Throughout world 10 -20% of adults and adolescents have symptoms consistent with I.B.S., with female predominance. I.B.S. symptoms tend to come and go overtime and often overlap with other functional disorders such as fibromyalgia, headache, backache, genitourinary symptom. Severity of symptom varies and can significantly impair quality of life. Altered GI motility, visceral hyperalgesia, disturbance of brain gut interaction, abnormal central processing, autonomic and hormonal events, genetic and environmental factors and psychological disturbances are variably involved depending on individual.⁴

Clinical Features Of I.B.S

The most common presentation is recurrent abdominal pain usually colicky or cramping, felt in lower abdomen and relived by defecation. Abdominal bloating worsens throughout day, altered bowel habit with alternate episodes of constipation and diarrhea. Patient with constipation tend to pass infrequent pellet stools, usually in association with abdominal pain or proctalgia and those with diarrhea have frequent defecation but produce low volume stools, passage of mucus, despite apparently severe symptoms, patients do not loose weight.¹⁰

Pathophysiology Of I.B.S.

Psychological stress and anxiety can increase the release of proinflammatory cytokine and this in turn may alter intestinal permeability. These cytokine further activates lymphocytes, mast cells which contribute to abnormal epithelial secretion and visceral hypersensitivity.¹¹

Discussion:-

Ayurveda has given prime importance to Manas Bhava for occurrence of disease. Diseases are divided into two types Sharirik and Manasik.¹² Manasik Vikara occurs due to dushti in Manasik Bhava like Kama , Krodha , Lobha , Moha , Irshya , Shoka , Chinta ,etc..¹³ These are described as Dharaniya Vega (suppressible urges) to remain healthy.¹⁴ In Ayurveda Acharya Charka has given importance to Manas Bhava in Ahara Vidhi for proper digestion e.g. taking food in relaxed environment with concentrated mind.¹⁵ Charka has also stated that healthy food taken in proper (approximate)

quantity can produce Ama by causing Agnimandya if taken in stressed conditions like Chinta, Shoka, Bhaya, etc..¹⁶

Acharya Sushruta also describes same that The food is not properly digested if taken in emotionally disturbed conditions due to jealousy , fear ,anger or greed or who is taking unlike food.¹⁷

From this, we can conclude that Manas Hetu plays vital role in keeping Agni in its normal state for proper digestion. In Grahani disease we do not get direct reference for Manas Hetu. Agnimandya is an important event in producing Grahani disease which occurs not only due to unhealthy dietic and behavioral habits but Manas Bhava Dushti also plays an important role.

Digestion is controlled by enteric nervous system. Stress activates 'flight or fight' response in C.N.S. So that C.N.S reduces contraction of digestive muscles, abnormally increase or decrease secretions needed for digestion and hampers normal digestion. Stress also can release cytokines, lymphocyte and mast cells which causes abnormal epithelial secretions and visceral hypersensitivity to hamper bowel movements. This phenomenon can be described I terms of Ayurvedic principles as –



Conclusion:-

- 1.I.B.S can be considered as Grahani
- 2.Stress plays an important role in disease production.
- 3.Ayurvedic drugs acting on Manovaha Strotasa can be used for treating the disease, as antidepressants used for I.B.S produces many side effects.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

"Concept of psychological factor in kitibha Kushthaw.s.r. to psoriasis"

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Abstract-

The objectives of the present article includes to discuss psychological concept of Kitibha. Most of the Ayurvedic texts categories the KushthaRoga into two groups ie.Mahakushtha and Kshudrakushtha and kitibha is one of the type of Kshudrakushtha.Kushtha is most cronic disorder. Basic Ayurvedic texts like Charaka, Sushruta, and Vagbhata have explained Kitibha in detail.

Ayurveda described a wide range of etiological factors for dermatological disorder including its ManasBhava. AcharyaCharaka, the author of foremost Ayurvedic classic on internal medicine, the CharakaSamhita clearly mentioned that there is a strong relationship exists between Tvacha (skin) and Mann(psyche/ mind) . Therefore, more than a cosmetic nuisance the skin disorder lead to different psychological ailments which impair the quality of life in the patients.

The etio- pathogenesis involves ManasHetu and the Sapta Dravya (seven factors) ,Vata, Pitta, Kapha, Tvacha, Rakta, Mansa and Ambu/ Lasika .Which are responsible for manifestation of a wide range of dermatological disorders.

key word - kitibhkushtha, ManasHetu , psoriasis.

Aim and objectives-

- 1)To discuss ManasHetu(psychological factor) in kitibhKushtha.
- 2)Review Of literature for KitibhaKushtha and psoriasis.

Introduction:

Word kushtha means a pathological condition which despises the skin. Skin is an important organ of communication with the external world. It is one of the five Gyanendriyas which responsible for SparshaGyan or touch sensation. Majority of the dermatological disorders have been descibed under the umbrella of Kushtha.⁽¹⁾Kushtha are further classified into Mahakushtha and kshudrakushtha . According to Charakakitibh is VataKapha⁽²⁾ predominant and according to Sushruta it is Pitta⁽³⁾ predominant kshudrakushtha. KitibhaKushtha is characterized by patches which are blackish brown in color, rough and coarse in nature , exudative .round , thick along with severe itching.⁽⁴⁾

Most of the dermatological disorders like psoriasis are mentally agonising and have negative impact on quality of life. Here it is important to remember the citation of AcharyaCharaka regarding the relationship between the Tvacha and Mann. Tvacha is considered as 'ChetahSamvayi' ie. the skin has an eternal relationship with Mann. Therefore, more than a cosmetic nuisance, dermatological disorders produce anxiety, depression and other psychological problem that affect the

quality of life . Patiints of skin disorders always experience physical, emotional and socioeconomic embarrassment in the society, which further leads to aggravation of symptoms of existung disease. ⁽⁵⁾

Ayurveda is the science and art of healing that deals with all aspects of an individual. In Ayurveda ,psychological factors have been given equal importance as physical and physiological factors in the etiopathogenesis of various . ^(6,7)

Nidana(Etiological factors)-

Ayurvedic system of medicine describe a wide range of etological factors for dermatological disorders . The etiological factors include physical , physiological , psychological , psycosocial , hereditary and papakarma . These can be classified into SannikrishthaNidana and VipkrishthaNidna as follow-

1)**SannikrishtaNidan**SaptokoDravyaSangrahaie seven Dravyas or factors involved in the pathogenesis of kushtha are considerd as SannikrishtaNidan . The SaptaDravya includes three Doshas viz. Vata ,Pitta, and Kapha and four Dushyas viz. Tvaka(Rasa), Rakta ,Mansa and Ambu or Laska. ⁽⁸⁾

2) **VipkrishthaNidana**:-Such type of etiological factors are not involved directly in the pathigenesis , but the aggravate the actual causative factors (SannikrishtaNidan) and thus play an important role in pathigenesis of the disease. These are further categorizes into three groups AdibalaPravrutta or Kulaja ,PoorvaJanmakruta and Janmottarkalja .

JANMOTTARKALAJA: The etiological factors in present life can be categoried into three groups, Aharaja (diet and dietetic patterns), Viharaja (life style related) and Mansika (Psychological) .

Mansika Nidan :-

Ayurveda described several factors like Chinta (worry)Shoka(sorrow),Bhaya (fear), abusing deities and teachers ,different type of sinful activites and other forms of anti rituals and anti-social activities which have a negative impact on the psyche / mind this negative impact on mind leads to stress which in turn directly or indirectly plays a major role in the manifestation and or aggravation of dermatological disorders. ⁽⁹⁾

Pathogenesis of Kushtha :-

Different type of Hetus (etiological factors) leads to vitiation of Doshas which spread throughout the body and vitiate Dhatus and thus help in the manifestation of kushthaRoga. ⁽¹⁰⁾ The whole process is known as SampraptiAcharyaCharaka describe the seven Dravyas , involved in the Samprapti ⁽¹¹⁾ ,which are Vata,Pitta,Kapha,Tvacha,Rakta.Mansa and Lasika (Ambu). Charaka regarding the relation of Tvacha and Manas ,Tvacha is described as "ChetahSamvayi" ie the Tvacha has an eternal relation with Manas (psyche or mind). ⁽¹²⁾

Samprapti of KitibhaKushtha with manasaHetu:-

Rasavaha Srotas Sthana - is Tvaka. Causes of RasavahaSrotusDusti are Krodh ,Chinta, etc. Mansikabhava are responsible for RasavahaSrotasDusti .

And because of this MansikaDoshaVata,Pitta,Kaphadoshas are vitiated. Further vitiation of Doshas occurs .Doshas gets accumulated at the place of DhatuShaithilyata .Dosh and

DushyaSamurchhana .Thereafter vitiated Doshas reaches to BahyaRogamarga and spread throughout the body, producing Mandala at the gathering site of Doshas .^(13,14)

Conclusion:-

Kushtha is one of the oldest disease of mankind . It is described one of the most cronic disease in Ayurvedic system of medicine .Ayurveda describe a wide range of dermatological disorders including its classification ,etio-pathigenesis ,clinical presentatio. Skin is an important organ of communication with the external world ,seat of Sparshanendriya (organ responsible for touch sensation) and has an eternal relationship with mann. Therefore ,any type of psychosocial stress , directly or indirectly responsible for the manifestation and exacerbation of Kitibhkushtha (psoriasis)

In the present era stress and altered immunity are the major factors involved in the manifestation of a wide range of KitibhaKushtha /psoriasis.

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EVALUATION OF THE EFFICACY OF MASHADI TAIL NASYA IN THE MANAGEMENT OF MANYASTAMBHA WITH SPECIAL REFERENCE TO CERVICAL SPONDYLOSIS

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ABSTRACT

In today's era, human life is more stressful. Due to change in life style, professional stress, travelling, food habits, peoples are more susceptible for various degenerative disorders like *Manyastambha*. *Manyastambha* is the clinical entity in which the back of neck becomes stiff or rigid, pain, *Stambha* in cervical region. It is a commonest degenerative disease by which larger group of community has been affected. *Manyastambha* has been enumerated in eighty *Nanatmja Vyadhis*. It can be clinically co-related with cervical Spondylosis. *Nasya* is the best treatment of choice in *urdhwajatrugata Vyadhis*. In *Samhita*, elaborated that *Mashadi tail nasya* is effective in *manyastambha*. *Mash* is a *Balyakar* which give strength to the cervical muscles. *Mashadi Tail* has properties which are beneficial in *manyastambha*. Thus here an attempt has been made to Evaluation of the efficacy of *Mashadi Tail Nasya* in the management of *Manyastambha* with special reference to Cervical Spondylosis

Keywords: *Manyastambh, Nasya, Mashadi Tail.*

INTRODUCTION

In today's era human life is affected by many degenerative problems because of change in life style, food habit, stress, travelling, lack of exercise are becoming part of life. These life style modifications have long term effect on healthy status of human being. The diseases of joints and locomotors system are one of sequels of modern advancement. Cervical Spondylosis is degeneration of cervical spine that most likely caused by age related changes in intervertebral disc.

The vitiated obstructs the channels of *Vata* leading to painful and restricted neck movements. The *Manyastambh* can be clinically correlated with cervical Spondylosis. It's a degenerative condition by

which the larger group of community has been affected.

The *Manyastambh* is disease which causes *Ruk* (pain), *Toda*, *Stambh* (stiffness), restricted movements in *Manya Pradesh*. According to *Ayurveda* texts, wrong sleeping positions, use of large pillows, *Diwaswap*, watching downwards, upwards for the side for long time, causing overstretching of neck are specific causes of *Manyastambh* due to above mentioned life style *Vata* and *Kapha* entity get vitiated causes *Manyastambh*.

There are medicinal & surgical treatment approaches to treat this condition which is often associated with many adverse effect. In *ayurvedic Samhitas* it is

elaborated that *Mashadi tail nasya* is effective in *Manyastambha*. *Nasya karma* is considered as the prime treatment for *urdhwajatrugata Vikara*. It is one of *panchakarma* in which the medicine is installed in nose. Strength of fibrous tissue that causes increased movements and flexibility of cervical joints and relieves the pain

According to *Ayurveda Nasya* is one of the best lines of treatment for the management of *Manyastambh*, which decreases level of *Prakupit Vata* and *Kapha Dosha* and improves the strength of fibrous tissue that causes increased movements and flexibility of cervical joints and relieves the pain.

Taila (Snehan) have properties which are opposite to *Vata Dosha* which decreases the *Prakupit Vata Dosha*. Hence the present study was undertaken to assess the efficacy of *Mashadi tail nasya* in the management of *Manyastambha* w.s.r. to cervical Spondylosis.

AIM AND OBJECTIVES:

AIM: Evaluate the efficacy of *Mashadi Taila Nasya* in the management of *Manyastambh*.

OBJECTIVES:

- To evaluate the effect of *Mashadi Taila Nasya* in *Manyastambh*.
- To study cervical Spondylosis by both *Ayurved* and modern science point of view

Study Design:-

Diagnosis Criteria –

Patients with classical sign and symptoms of *manyastambh* with that of cervical Spondylosis i.e. pain at neck region, *Stambha* (stiffness) were selected for clinical study.

Inclusion Criteria-

- Well diagnosed patients of *Manyastambh*.

- Patients between age group of 20-70
- Patients fit for *nasya karma*.

Exclusion Criteria-

- Cervical vertebra fracture
- Cervical rib, cervical canal stenosis
- Congenital Torticollis

Material & method:-

- *Mashadi tail :-Mash, Rasna, Bala, Arand, Rohishtrun, Ashwaganga, Hinga, Saindhaw, Kapikachu beej, Til Tail.*

- clinical study include total 20 patients which are diagnosed

Type of Nasya & Dose: *Marsh Nasya*. (6 *Bindu*)

Total study Duration: - 7days

METHOD OF TREATMENT NASYA:-

A) *Poorvakarma*:-

- Drug and instruments for *Snehan, Swedan* and *Nasya* collected.
- Patients lie down *Nasya* table comfortably for *Snehan* and *Swedan* purpose
- *Abhyanga* with lukewarm *Taila* done over forehead, shoulder, hand, cervical region
- *Mrudu Swedan* given after covering eyes with cotton swab till the *Swedot-patti* on forehead.

B) *Pradhankarma*:-

- After completion of *Poorvakarma* patients head lowered in 45 degree angle from edge of table.
- Patients advised to relax with the closing eyes
- Selected *Marsh Nasya* dose i.e.6 *bindu Mashadi Taila Nasya* administered to the Patients.

C) *Pashchyatkarma*:-

- After *Pradhankarma* patient advised to lie in supine position for 100 *Matrakala*.
- Forehead, frontal, maxillary and temporal areas massaged.

- *Pathya -apathya* of *Nasya Karma Vidhi* advised to the patient

Subjective criteria

- *Manyashool*(pain)
- *Stambh*(stiffness)
- *Gaurav* (Heaviness)
- *Chimchimayan*(Numbness)

a) **Manyashool(Pain)** by VAS analogue scale.

Grade 0	No pain
Grade 1	Mild, pain occasionally (1-3 score)
Grade2	More than mild but tolerable pain (4-6 score)
Grade3	Sevear pain continuous (7-10 score)

b) **Stambh(Stiffness)**

Grade 0	Absent
Grade 1	Mild, occasionally
Grade 2	Moderate, for 30-1 hr daily
Grade 3	Sevear, persistent

c) **Gaurav (Heaviness)**

Grade 0	Absent
Grade 1	Mild, occasionally for 10-30 min
Grade2	Moderate for 30-1 hr
Grade3	Severe Persistence>1 hr

d) **Chimchimayan (Numbness)**

Grade 0	No Chimchimayan
Grade 1	Mild ,occasionally
Grade 2	Moderate, during work
Grade 3	Severe, continuous

Objective Criteria:

Cervical movement	Normal movement in degree
1)Flexion	50
2)Extension	60
3)Lf and Rt flexion	45
4)Rt and Lf Rotation	80

a) **Mobility flexion**

Grade 0	Normal i.e. 50 degree. able to touch chin & chest
Grade 1	38 to 49 degree of total neck movement
Grade 2	25 to 37 degree of total neck movement
Grade 3	13 to 24 degree of total neck movement
Grade 4	No flexion of neck

b) **Extension –**

Objective Criteria

- Flexion Left & Right
- Extension
- Rotation
- Flexion

CRITERIA FOR ASSESEMENT

- **Subjective criteria :-**

Grade 0	Normal i.e. 60 degree extension of head up to back
Grade 1	45 to 59 degree of total neck movement
Grade 2	30 to 44 degree of total neck movement
Grade3	15 to 29 degree of total movement
Grade 4	No extension of neck

c) Lateral flexion (Rt& Lf)

Grade 0	Normal i.e. 45 degree ear touch to shoulder tip
Grade 1	34 to 44 degree of total neck movement
Grade 2	23 to 33 degree of total neck movement
Grade 3	12 to 22 degree of total neck movement
Grade 4	No flexion of neck

d) Rotation of neck (Rt & Lf)

Grade 0	Normal i.e.80 degree, able to make complete rotation
Grade 1	60 to 79 degree of total neck movement
Grade2	40 to 59 degree of total neck movement
Grade3	20 to 39 degree of total neck movement
Grade4	No rotation of neck

This range of movement of the neck will be measure with the help of **Goniometry** as before, after & at follow up

RESULT

Table for signs and Symptoms score

Sr.No	Criteria for assessment	Grade
1	No effect of treatment	3
2	Mild improvement	2
3	Moderate improvement	1
4	Complete Relive of treatment	0

In the present study the trial was conducted on 20 diagnosed patients. All patients were assessed before and after treatment using above parameters and the measure-

ment of neck angle by **Goniometry**. Assessment criteria are subjective and objective hence chi square test & paired T test is used.

Statistical analysis

Assessment Criteria	Mean BT	Mean AT	SD	SEM	Pr> t
Flexion	31.77	50	3.821	0.6976	<0.0001
Extension	33.33	60	5.511	1.006	<0.0001
Lt. Lat. Flex	29.77	45	3.360	0.6134	<0.0001
Rt.Lat.flex	28.80	45	3.718	0.6787	<0.0001
Lt. Rotation	39.77	80	7.342	1.341	<0.0001
Rt Rotation	40.57	80	6.673	1.218	<0.0001

The statistical analysis was done using graphical prism software and observed that the obtained P value are <0.0001 at 29 de-

gree of freedom which is highly significant hence *Mashadi tail Nasya* is effective in the management of *manyastambh*.

OBSERVATION AND DISCUSSION

Manyastambha is a disease of cervical region. It has symptoms of *Ruk*, *Stambha* and restricted movement of neck. *Nasya* is one of the panchakarma procedures in which medicated oil, *qwath*, *Gruta* is administered through nostrils. *Masahdi tail nasya* (6 bindu in each nostril) given to the 20 patients for 7 days.

Follow up was taken on 1st & 7th day. Assessment of patients was done before & after treatment. It is found that out of 20 patients 15 got better relief, 3 patients got good relief and remaining 2 patients got satisfactory relief in above said symptoms. *Mashadi tail* is *Vatashamak*, *Kaphashamak* responsible to destroy the vitiated *Kapha* and *Vata*. Hence, the significant effect of *Mashadi tail nasya* observed in 7 days.

CONCLUSION

Manyastambha is affected to larger population. It is degenerative disease. *Mashadi tail nasya* is effective in *Manyastambha*. Obtained P value are <0.0001 at 29 degree of freedom which is highly significant hence *Mashadi tail Nasya* is effective in the management of *manyastambh*.

Hence we can say that *Mashadi tail* is *strotoshodhak* and *vatahara* and also found that *Nasya* with *Mashadi tail* are effective treatment in *Manyastambha*. It better reduces pain, stiffness & restricted movement of neck in 15 patients, good relief in 3 patients and satisfactory result in 2 patients. It gives strength to the cervical muscles and most important gives relief to the patients and it prove the main objective of *Ayurveda* i.e. “*Aaturasya vicar prashamana!*”

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A Conceptual Study of Nasya in Vishachikitsa According to Brihatrayee

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Abstract:

In Ayurveda the Acharya explained various types of poisons. Each poison has different sign symptoms and treatment. Acharya Charaka has explained Chaturvinshati Upakrama in the management of Visha; Nasya is one of them. In different Visha vega different Vishaghna or Doshaghna Dravya or Agad kalpa is used.

Keywords: Agadtantra, Nasya, Vishavega, Vishaghna

Introduction:

Ayurveda is a Sanskrit word made from the Ayus and Veda. Ayus means life and Veda means knowledge or science. That means knowledge of life is Ayurveda. Ayurveda is the oldest medical science known to mankind. Ayurveda mainly aims at healthy living and long life.

According to Charaka Ayurveda comprise the mind, body, sense and soul.¹

The eight branches of Ayurveda collectively known as 'Ashtang Ayurved'.²

Agadtantra or Danshtra chikitsa is one of them.

Agadtantra describes various poisons their toxic effects and methods of elimination of poisons from body.

According to Ayurveda Visha is classified into two types 1.Sthavar 2.Jangama³

According to modern science toxicology deals with diagnosis, symptoms and treatment of poisons and the methods of detecting them.

Toxicology is the science which deals with poisons with reference to their sources, properties, mode of action, symptoms which they produce, lethal dose and nature of the fatal results, treatment, methods of their detection and estimation and autopsy findings. It also concerns with law regarding their sale and prescription. Section 284, 299, 300, 304A, 324, 326 and 328 IPC deal with offenses relating to administration of poisons.⁴

In Brihatrayee, poisonous substances, their poisonous effects, Visha vega and their treatment is mentioned in detail. Charakacharya has explained Chaturvinshati Upakrama in the management of Visha. Nasya is one of these 24 Upakrama.⁵ Nasya karma is one of the Panchakarma. It is also known as Shirovirechan.Nasya karma is process in which the mediated oil /

Churna /Kwath/ kalka is administered through nostrils. These administered medicines will reach to all the organs and cells and destroy the vitiated Dosha from head.

As in the recent era the interest in intra nasal drug delivery is increased;so study of Nasya is necessary.As the nasal mucosa offers numerous benefits as a target tissue for drug delivery, the drugs are being used intra nasally for tropical, systemic and CNS action following the rule of Acharya "नासा हि शिरसो द्वारं"⁶

Aim and objectives:

1. To study general principles of management of poisoning according to Ayurveda w.s.r to 24 Upakrama.
2. To study Nasya karma in different Visha vega / visha.
3. To draw a conclusion from the study.

Nasya

Nasa (nose) is the doorway of Shir (Brain).⁷ It is also considered as doorway of consciousness.

Types of Nasya

Sr. no.	Acharya Charaka ⁸	Acharya Sushruta ⁹	Acharya Vagbhata ¹⁰
1	Navana Nasya	Nasya	Virechan
2	Avapeedan	Pratimarsha	Brihan
3	Dhmapan	Shirovirechana	Shaman
4	Dhooma	Avapeedan	
5	Pratimarsha	Pradhaman	

Mechanism of drug absorption in Nasya:¹¹

Drug transport across the nasal epithelium is assumed to occur by following mechanisms-

1. Transcellular passive diffusion
2. Paracellular passive diffusion
3. Carries mediated absorption and secretion
4. Absorption through transcystosis
5. Efflux transport

Two main theories are considered predominantly

1. Transcellular
2. Paracellular

Drug may act by two ways: 1.Vascular path
2. Neural path

Indication of Nasya in Visha:

Sr. No.	Reference	Indication	Useful Drug / Kalpa
1	Charak Samhita Chikitsa sthan 23 /49	5th Visha vega	Kaakaand + Shirish patra swaras
2	Charak Samhita Chikitsa sthan 23 /53	8th Visha vega	Kaakandyadi Yoga
3	Charak Samhita Chikitsa sthan 23 /66	Vishajanya kaphavarodh	Marich + Katfal Churna
4	Charak Samhita Chikitsa sthan 23 /68	Vishajanya Nasa-Akshi-Karna-Jivha-Kantha Avarodh	Kantakari,Jyotishmati,Matulung root
5	Charak Samhita Chikitsa sthan 23 /190-193	All types of Visha	Maansyadi Yoga
6	Charak Samhita Chikitsa sthan 23 /196	Sarpa Visha	Shirish pushpa
7	Charak Samhita Chikitsa sthan 23 /196	Darvikar Sarpa Dansh	Kushtha Churna +Madha
8	Charak Samhita Chikitsa sthan 23 /200-201	Loota Visha	Chandan+ Padmakashta + Ushir + Shirish beej + Sindhuvarika + Kshirvidari + Tagar + Kushtha + Patla+ Sariva+ Ashmantak patra swaras
9	Charak Samhita Chikitsa sthan 23 /212-214	Saumya Kita Dansh	Param Agad
10	Charak Samhita Chikitsa sthan 23 /215	Shatpadi Dansh	Sarjikshar + Ajashakrut kshar + Tulasi patra + Akshipidak + Varuni mand
11	Charak Samhita Chikitsa sthan 23 /242 -248	Garavisha	Amruta Ghruta
12	Sushrut Samhita Kalpa sthan 1/64-65	Poisoning due to Nasya – Dhumapana	Ativisha+ Vacha + Mallika root siddh Ghruta
13	Sushrut Samhita Kalpa sthan 1/76-77	Poisoning due to food, vapours, oils, ornaments	Mahasugandhi Agad
14	Sushrut Samhita Kalpa sthan 2/41	Sthavara Visha 3rd vega	-
15	Sushrut Samhita Kalpa sthan 2/41	7th Vega	Avapeedan Nasya
16	Sushrut Samhita Kalpa sthan 5/21	Sarpa Dansh 3rd Vega	Vishanashaka Nasya
17	Sushrut Samhita Kalpa sthan 5/23	Darvikar Sarpa Dansh 7th Vega	Tikshna Avapeedan
18	Sushrut Samhita Kalpa sthan 5/27	Mandali Sarpa Dansh 7th Vega	Tikshna Avapeedan Vishanashaka Agad
19	Sushrut Samhita Kalpa sthan 5/30	Rajimant 7th Vega	Tikshna Avapeedan
20	Sushrut Samhita Kalpa sthan	Poisoning in birds	Dose of Nasya 2 Marsh

	5/33		
21	Sushrut Samhita Kalpa sthan 5/42	If Shirogaurav , Galgrah , Alasya, Hanustambh, Manyastambh present	-
22	Sushrut Samhita Kalpa sthan 5 / 43	Neck stiffness, Unconscious patient	Tikshna Pradhman
23	Sushrut Samhita Kalpa sthan 5 / 62	All Visha vega	Maha agad
24	Sushrut Samhita Kalpa sthan 5 / 73-75	Mrut vat Visha Rogi	Sanjivani Agad
25	Sushrut Samhita Kalpa sthan 6/3-7	All types of poisoning	Kshar Agad
26	Sushrut Samhita Kalpa sthan 8/101-102	Trimandala Luta Dansh	Arkamul + Rajani + Rasna + Prushniparni
27	Ashtang Hriday Uttar sthan 35/18	3rd visha vega	-
28	Ashtang Hriday Uttar sthan 35/31-32	All types of Visha	Chandrodaya Agad
29	Ashtang Hriday Uttar sthan 36/57	Darvikar Sarpa Dansh	Madha + Kosht
30	Ashtang Hriday Uttar sthan 36/60-61	Darvikar & Rajimant Sarpa Dansh	Kashmari + Tanduliyak + Girikarnika + Matulung + Sita
31	Ashtang Hriday Uttar sthan 36/72	Sarpa Visha	Shveta Marich + Shirish pushpa Swaras
32	Ashtang Hriday Uttar sthan 36/77	Darvikar Sarpa Dansh	-
33	Ashtang Hriday Uttar sthan 36/81	Rajiman 6th Vega	Tikshna Nasya
34	Ashtang Hriday Uttar sthan 36/84-85	Sarpa, Luta , Mushak, Vrushchik Dansh, Krutrim visha	Bilva mulanche + Surasa + Karanj beej + Tagar + Devdaru + Triphala + Trikatu + Daruharidra
35	Ashtang Hriday Uttar sthan 37/39	Ugra Vrushchik Dansh	-
36	Ashtang Hriday Uttar sthan 37/82-85	Luta visha	1.Hriber + Musta + Chandan etc. 2. Haridra + Musta + Pimpali etc. 3. Bilva + Chandan + Tagar etc.
37	Ashtang Hriday Uttar sthan 37/ 86	All types of Luta visha	Lodhra + Ushir + padmak + Shveta and Rakta Chandan etc.
38	Ashtang Hriday Uttar sthan 38/31	Mushak Visha	Sindhuvar root + Bidal asthi + Vatsanabh + Tagar

Discussion:

Nasya karma is important in Vishachikitsa which eliminates vitiated Doshas, excretes toxins from body. Though it's administration is from nose and medicine reaches to brain; it is not only limited to above the neck; it's sphere of action is whole body.

The different drugs used for Nasya karma are either Vishaghna or Doshaghna according to increased Dosha in particular poisoning or Visha vega. If patient is unconscious or Visha vega is vigorous then Tikshna Nasya is indicated as Nasa is doorway of consciousness. After observing all indications of Nasya it is not restricted to Urdhva Jatrugata vyadhi only, it can be supportively used in other symptoms or other Srotas Dushti lakshanas also.

Conclusion:

Nasya stimulates the olfactory cortex, hypothalamus and pituitary gland in short it stimulates whole nervous system with cranial nerves and also maintains functions of endocrine glands. It gives soothing effect to brain and induces sleep. It calms nervous system and induces somniferous effect. Generally in the management of poisoning intra venous route is preferred as it is more convenient and having quick result but the nasal route also shows fast result. Hence Nasya can be used in emergency management of poisoning. With fine knowledge of Visha vega, patient's condition and useful Dravya we can save life with the help of Nasya.

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**“EFFICACY OF ABHYANTAR CHIKITSA WITH STHANIK
CHIKITSA IN THE MANAGEMENT OF KAPHAJ YONIVYAPAD”: A
CASE STUDY**

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ABSTRACT

Today women has achieved success in almost all sectors for that she has worked day and night she has adopted modern lifestyle like eating junk foods, fast foods, tight cloth wearing, working late nights, skipping food or dieting. etc this all are the factors more or less responsible for her disturbed health. She ignores herself and her illness unless until it hampers her daily routine. One such problem is white discharge per vagina which is very common problem today. Nearly 40% of women suffer from this problem but neglects the treatment, unless it is accompanied with some other symptoms which creates the problem like itching, mild pain in vagina and most common backache.

This all symptoms comes under the disease called as *Kaphaj Yonivyapad*. According to *Ayurveda* there are twenty types of *Yonivyapad*. The causative factor for *Yonivyapad* is *Vata* and for *Kaphaj Yonivyapad* is *Kapha* and *Vata*. So *Karanj taila pichu* and *Yonidhavan* with *Triphala kwatha* is used to *bhang* the *samprapti* of disease. She takes care of whole family so being our duty to take care of her health the present article is case study done in an effort to give relief and establish a successful line of treatment.

KEYWORDS: *kaphaj yonivyapad, karanj taila, pichu yonidhavan.*

INTRODUCTION

Today women has achieved success in almost all sectors for that she has worked day and night she has adopted modern lifestyle like eating junk foods, fast foods, tight cloth wearing, working late nights, skipping food or dieting. etc this all are the factors more or less responsible for her disturbed health. She ignores herself and her illness unless until it hampers her daily routine.

One such problem is white discharge per vagina which is very common problem today. Most of women suffer from this problem but neglects the treatment, unless it is accompanied with some other symptoms which creates the problem like itching, mild pain in vagina and most common backache. This all symptoms comes under the disease called as *Kaphaj Yonivyapad*. According to *Ayurveda* there are twenty types of *Yonivyapad*. This disease include *vata* and *kapha dosha* due to *kapha* there is *picchle sheleshmik strava* and *duargandha* and due to *vata dosh* there is mild pain in vagina *acharyas* has describe the symptoms and management. Improper hygiene and local uncleanliness is also responsible for aggravating the symptoms of the disease.

Nearly 41% of women in reproductive age group suffer from white discharge. Modern line of treatment includes antibiotics antifungal antihistaminics. which gives temporary relief and are costly compared to the herbal mode of management mentioned in *Ayurveda*. It gives permanent eradication of the disease if followed by appropriate use of drugs.

The causative factor for *Yonivyapad* is *vata* and for *kaphaj Yonivyapad* is *kapha* and *vata*. So *Karanj taila pichu* and *yonidhavan* with *triphala kwatha* is used to bhang the *samprapti* of disease. She takes care of whole family so being our duty to take care of her health the present article is case study done in an effort to give relief and establish treatment a successful line of treatment.

AIMS AND OBJECTIVES OF CASE STUDY

To evaluate role of *Abhyantar Chikitsa* with *Sthanik Chikitsa* in the management of *Kaphaj yonivyapad*.

TYPE OF STUDY: Observational single case design without control group.

MATERIALS AND METHODOLOGY

Study Center: C.S.M.S.S. Ayurved Hospital, Aurangabad.

Study Details

Name of pt: xxx

Reg. No O.P.D. No. – 20481

Date of First visit: 27/06/2016 Age: 32 years

Gender: Female Religion: Hindu Occupation: Housewife Diet: Veg & Non-veg.

Chief Complaint

1. Continous white discharge per vagina 2 months
2. Mildpain in vagina since 15 days
3. Lower backache since 1 month
4. *Aruchi, Agnimandya* 1 month

Marriage Life: 6 years

Menstrual History: 3-5/28days/Avg flow/ Reg/ No Pain.

Obstetric History: G2P2L2A0D0

Brief History

32 years old patient having married life 6 years having 1male and 1 female child complains of Continous white discharge per vagina 2 months, Pain in vagina 15days, Lower backache since 1 month. *Aruchi, Agnimandya* 1 month. She had taken treatment for the same at private Hospital but had not got result so she came to C.S.M.S.S. Ayurvedic Hospital Aurangabad for management & she had following reports with her.

- 1) USG REPORTS:-WNL.
- 2) CBC REPORTS:-WNL.
- 3) URINE REPOTRS:-WNL.

General Examination

- 1) Obesity +

Ashtavidha Parikshan

1. *Nadi = 90/min, madhyama bala, niyameet.*
2. *Mala = Grathit Malapravrutti.*
3. *Mutra = Samyaka*
4. *Jivha = Saam*
5. *Shabdha = Avishesha*
6. *Sparsha = Anusha*
7. *Druka = Alpashwetata*
8. *Akruti = Sthul*

Udar parikshan - Udarasthambha, Aanaha, & other lakshanas Agnimandya, Aruchi, Udar shool

Local Examination

PS = Cx healthy.

White discharge +++ Foulsmell +++

PV= Ut-AVAF / not Bulky / Mobile fornices clear.

Srotas Parikshan Dushita Srotas Are Rasa Vaha - Aruchi, Sarvang Gaurav Annavana - Agnimandya

Aartavvaha – 3-5\28\ avg regular normal.

Diagnosis:- KAPHAJ YONIVYAPAD**Treatment On 27/06/2016**

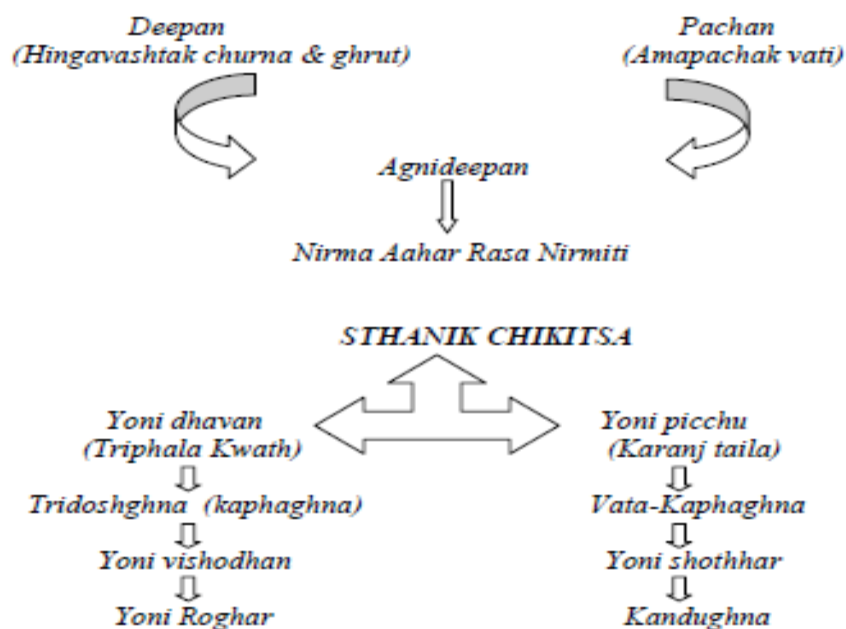
- 1) As the patient was complaining of *Agnimandya*. She was advised to take *Hingvashatak Choorna* 2gm twice a day with *Ghruta* before meal for *Deepan karma* for 3 days.
- 2) For *Aamapachan Ampachakuati* 500 mg twice a day after meal for 3 days. After that she was called for *Sthanik chikitsa* i.e. *yoni dhavan* with *Triphala kwath* and *Yoni picchu* with *Karanj Taila* locally for 7 days regularly (from 30/6/16 to 6/7/16). During this therapy her white discharge and associated symptoms were relieved gradually. On last day she got complete relieve from all symptoms.

Total Duration Of Therapy

This line of treatment i.e. *Deepan Pachan* for 3 days, *Sthanik chikitsa* i.e. *yoni dhavan* with *Triphala kwath* and *Yoni picchu* with *Karanj Taila* locally for 7 days i.e. total 10 days.

OBSERVATION/RESULT

On last day her all symptoms were reduced like white discharge foul smell, itching and pain in vagina. *Triphalakhwath dhawan* used in therapy has cleaned washed out the secretions and discharge of vagina. It deals with the altered Ph of vagina thus not favouring the microorganism invasion. *Karanj tail picchu* helps the medicine to remain for long period for better action it diminishes the chance of infection in the genital tract, as tail is *Yonivishodhana* and *vranaropak*.

ABHYANTAR CHIKITSA**TREATMENT PLAN**

Sr.No	Karma	Drug	Dose	Duration
1.	Deepan	Hingavashtak churna with ghrut	2 gm BD	3 days
2.	Pachan	Amapachak vati	500 mg BD	3 days
3.	Yoni dhavan	Triphala Kwath	As required	7 days
4.	Yoni picchu	Karanj Taila	As required	7 days

DISCUSSION

In this patient the *Kaphajyonivyapad* deals with the vitiation of *vata* and *kapha dosha* so the drugs *triphala* and *karanja taila* has been used. It was found that the drugs has helped in *samprapti bhang* of the disease and thus the symptoms were gradually relieved. The *sthanik chikitsa* used as the mode of treatment has helped in local cleanliness and prevention of further infections by the microorganism invasion. It had given the natural antibiotic effect without giving any side-effects as given by modern medicines.

CONCLUSION

Thus we can conclude that as compare to modern view the holistic approach of *Ayurvedic* system of medicine & *Sthanik Chikitsa* plays an important role and gives relief to patient from *Kaphaja Yonivyapad*.

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**“TO STUDY THE EFFICACY OF TINTIDIMANDOORAM IN
MANAGEMENT OF GARBHINI PANDU W.S.R. TO IRON
DEFICIENCY ANAEMIA”.**

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ABSTRACT

Anaemia is defined as reduction in circulating haemoglobin mass below the critical level and it is the most prevalent haematological disorder that may occur in pregnancy⁵. Anaemia is an indirect cause of death. About 50% of pregnant women worldwide suffer from anaemia. Anaemia is commonly due to dietary deficiency (nutrition, iron, folic acid, iodine and other micro nutrients) or infections⁸. Anaemia is a global health issue that has significant consequences for the individual health and socio-economic development. The most common cause of anaemia in developing nation is “Iron Deficiency”⁹. In addition, there is marked demand of extra iron during pregnancy specially in the second half. Even an adequate diet can not provide the extra iron thus result in iron deficiency anaemia in pregnancy. In modern medicine,

ferrous gluconate, ferrous fumarate or ferrous succinate is used to correct anaemia. Drawbacks of ferrous gluconate, ferrous fumarate or ferrous succinate are intolerance, epigastric pain, nausea, vomiting, diarrhoea or constipation, unpredictable absorption rate. For avoiding these drawbacks I selected “Tintidimandooram” for Garbhini pandu¹⁵.

तिन्तिडीपिप्लियुक्तं मण्डूरत् योजयेत्।

हरि योगराजोऽयं शोफाण्डुक्षयादिकानत ॥ ७४४

-व.रा., वै.चि., िण्डुरोगे (रसयोगसागरः)

Tintidimandooram contains Mandoor bhasma, Tintidi churna, Pimpali churna¹⁶.

Effectiveness of Tintidimandooram to overcome above said complications

Mandoor bhasma

मण्डुरं सुमृत्त्वं वृष्यं शशशशरं रुचिरं रिमत।

िींनिं पित्तिशमन रक्किवृन्दिकरं रिमत॥

कामलाकुड्यकुशलश मण्डुरं िु पवशेषिः। -र.ि. २०/१३२-१३३

Uttam mandoor bhasma is vrusha, sheeta, ruchivardhaka, agnideepak, pittashamaka and uttam raktavrudhikar¹⁷.

Pippali

पिप्िली िींनिनी वृष्या स्वािुिाका रसायनी।

अनुष्णा कटुका न्स्नग्धा वािश्लेष्महरी लघुः॥ -भा.प्र.

Pippali is katu, anushna, madhur, laghu, snigdha, tikshna in guna¹⁸.

Tintidi

वािािंहं तिन्तिडीकमाम् पित्तिबलासकृति।

ग्राह्युष्णं िींनिं रुच्यं संकिव् कफवािनुिति॥ -सु.सू.४६/१५८

Tintidi is amla, ushna, laghu, ruksha in guna¹⁹.

Agnimandya is one of the purvaroop of panduroga. Pippali, Tintidi having deepana guna which reduces Agnimandya. Pippali reduces constipation in Garbhini and Tintidi helps in absorption of Mandoor bhasma. Tintidimandooram has higher absorption rate than other drugs and also cheaper than modern drugs.

Pregnancy is very delicate stage, to avoid iron deficiency anaemia in pregnancy and to decrease mortality rate I selected this topic “**To Study The Efficacy Of Tintidimandooram In The Management Of Garbhini Pandu w.s.r. To Iron Deficiency Anaemia**”.

INTRODUCTION

The prevalence of Anaemia in Pregnancy is of daily occurrence. Anaemia results from number of causes out of which Iron Deficiency is most common in developing countries like India, due to inadequate & less nutritious diet, low socio-economic status, poor sanitation & lack of health knowledge. Anaemia is defined as reduction in circulating haemoglobin mass below

the critical level and it is most prevalent haematological disorder that may occur in Pregnancy. There are many side effects due to oral administration of Iron preparations. Thus it is important to search for more safe, easily available, palatable & cost effective therapy having least side effects. "Ayurveda has stated various types of Garbhaopdrava which explains The disorders which occur in Garbhini due to presence of garbha are called as Garbhaopdrava." In respect of Garbhaopdrava, Acharya Harita has described 8 Garbhaopdrava –Shosha, Hrullas, Chhardi, Shopha, Jwara, Aruchi, AtiSaar, Vivarnatva¹¹. Here Vivarnatva (pallor) can be taken as pandu because Vivarnatva means change in colour. According to acharya charak, pandu is rasa-pradoshaj vyadhi during pregnancy foetus is nourished by rasa dhatu.

AIMS AND OBJECTIVE

- To study the efficacy of Tintidimandooram in the management of Garbhini Pandu w.s.r. to Iron deficiency Anaemia in pregnancy.
- To study the effect of Tintidimandooram in Garbhini Pandu.
- Changes in haemoglobin percentage due to Tintidimandooram will be assessed.
- Changes in MCV, MCH, MCHC due to Tintidimandooram will be assessed.

MATERIALS AND METHODS

1. MATERIALS

- Patients of Garbhini Pandu from OPD were selected.
- Drug- Tintidimandooram contains

CONTENTS OF TINTIDIMANDOORAM AND DOSE:-

तिन्तिडीपिप्लीयुक्तंमण्डूरतंयोजयेत् ।

हरियोगराजोऽयंशोफिण्डुक्षयादिकानत ॥ ७४४ व.रा.,वै.चि., िण्डुरोगे(रसयोगसागरः)

TINTIDIMANDOORAM

- The dose of Mandoora Bhasma: 1/4 to 2 Ratti i.e. 30mg to 250mg.

आरभ्यगुञ्जािािांशाल्लोहमात्रापवधानपवित ।

गुञ्जादपविययतिमण्डूरतंपवतनयोजयेत् ॥ - र.ि.२०/१३५

- Madoora Bhasma +Tintidi Churna + Pippali Churna = Tintidimandooram (250mg) (250mg) (250mg) (750mg)

- So dose of Tintidimandooram is 750 mg. It will be given in 2 divided doses after meal, orally. Tintidimandooram will be given by using empty gelatine capsule. Each capsule contains 375 mg Tintidimandooram.
- - Tab. Ferrous Fumarate with Folic Acid.

2. METHODS

A. PLACE OF WORK: Ayurved Mahavadyalaya and hospital, Streerog Prasutitantra OPD.

B. SELECTION OF PATIENT: Random selection of 60 diagnosed patients of Garbhini Pandu from OPD and IPD of StreerogPrasutitantra Department of our Ayurved Rugnalaya.

C. PERIOD: 60 days for trial group and 60 days for control group individual. Follow up after every 15 days.

PLAN OF STUDY

	Group A (Trial Group)	Group B (Control Group)
Drug name	Tintidimandooram	Ferrous Fumarate with folic acid
Time of administration	After meals in 2 divided doses.	In between meals in 2 divided doses.
Duration	60 days.	60 days.
Follow up	Every 15 days.	Every 15 days.

MATERIALS AND METHODS:- The study was conducted on 30 Garbhini & were randomly divided into 2 groups.

INCLUSION CRITERIA

- *Patients between the ages of 18 years to 35 years.*
- *Patients with predominant signs and symptoms of panduroga, Irrespective of, religion, geographical area and socioeconomic status.*
- *Patients having iron deficiency anaemia.*
- *Patients having Haemoglobin percentage in between the range 7 to 10.*

EXECLUSION CRITERIA

- *Patients having Haemoglobin percentage less than 7.*
- *Age below 18 years and above 35 years.*
- *Patients suffering from major systemic disorders.*
- *Any patient requiring surgical intervention.*
- *All types of anaemia other than Iron deficiency anaemia.*

Gradation Of Symptoms

Sr. no	Symptoms	Grade o	I (+)	II (++)	III (+++)
1	Vivarnatva	Absent	Nakha, Netra, Panduta	Nakha, Netra, Tawk, panduta	Nakha, Netra, Tawk, Jivha, Panduta
2	Shrama Shwasa	Absent	While walking	While Performing daily routine work	While, Performing light work
3	Akshikutashoth	Absent	Only morning after rising up from bed	Persistent whole day	Disturbance while opening eyes
4	Agnimandya	Normal appetite	Takes mild diet two times	Takes soft diet forcefully (once a day)	Not feeling to eat in a whole day (24 hours)
5	Bhrama	Absent	While walking	While Performing daily routine work	While Performing light work

INVESTIGATIONS

- Haemoglobin percentage.
- MCV, MCH, MCHC.
- Peripheral blood smear for RBCs.

OVERALL ASSESSMENT OF THE RESULTS

Sr no	GRADATION	TOTAL ASSISSMENT
1	Grade IV (Cured)	Haemoglobin increased by ≥ 2 gm% $\geq 75\%$ relief in signs and symptoms.
2	Grade III (Remarkable Improved)	Haemoglobin increased by 1 to 2 gm% 50 to 75% relief in signs and symptoms.
3	Grade II (Improved)	Haemoglobin increased by 0.5 to 1 gm% 25 to 50% relief in signs and symptoms.
4	Grade I (Unchanged)	Haemoglobin increased by 0 to 0.5 gm% < 25% relief in signs and symptoms.

OBSERVATIONS AND RESULT

- OBSERVATIONS AND RESULTS: In this study, 60 patients were randomly selected and divided into two groups:

Total Patients registered for Study – 60

- Group A – 30 Patients
- Completed- 30
- Group B – 30 Patients
- Completed- 30

- **Age Incidence:** Maximum number of patient are found in age group 25 to 30yrs. Women are mainly reproductive in this age group. That's why age incidence is high in this age group.
 - **Religion Incidence:** In this study, large no of patients were Hindu.
 - **Education Status:** Majority of patients had completed graduation. Government is taking several steps for women-empowerment. But still Illiteracy in patients was also remarkable.
 - **Occupation:** Majority of patients were House wife followed by patients having service. Also it was observed that House wife patients were more anaemic. The reason can be lack of awareness in them about rich iron contain diet.
 - **Socio-economic status:** In this study, patients belonging to poor family were more affected by Garbhini pandu.
 - **Habitat Incidence:** It was observed that majority of patients were from Urban area.
 - **Diet:** It is observed that majority of patients were taking veg diet.
 - **Weight:** Maximum patients were found in 51-60 weigh group.
 - **Prakruti:** Maximum patients were having kapha-vata prakruti and followed by vata- pitta prakruti.
 - **Satva:** Maximum patients were having Madhyama satva.
 - **Saar:** Maximum patients were having Madhyama saar.
 - **Satmya:** Maximum patients were having Madhyama satmya.
 - **Samhanan:** Maximum patients were having Madhyama samhanan and followed by Avara samhanan.
 - **Koshtha:** Maximum patients were having Mrudu koshttha.
 - **Nidra:** Maximum patients were having Prakruta nidra followed by Alpa nidra.
 - **Abhyavaranshakti:** Maximum patients were having Madhyama Abhyavaranshakti.
 - **Jaranasakti:** Maximum patients were having Madhyama Jaranshakti
- **Effect of Treatment on Clinical Features of Pandu: Group A**

Signs and Symptoms	N	Mean Score		Mean diff.	P value
		B.T.	A.T.		
Vivarnatva	30	0.96	0.17	1.13	<0.001
Shrama Shwasa	30	1.93	0.77	1.16	<0.001
Akshikutashoth	30	1.0	0.20	0.80	<0.001
Agnimandya	30	1.3	0.07	1.23	<0.001
Bhrama	30	1.5	0.43	1.07	<0.001

Effect of Treatment on Haematological Investigations of Pandu: Group A

Haematological values	N	Mean Score		Mean diff.	S.D.	S.E.	t value	p value
		B.T.	A.T.					
Hb%	30	8.62	9.25	0.64	0.17	0.03	21.13	<0.001
RBC	30	3.98	4.07	0.09	0.07	0.01	7.06	<0.001
PCV	30	27.76	29.1	1.31	0.85	0.16	8.44	<0.001
MCV	30	68.48	72.9	4.4	1.92	0.35	12.55	<0.001
MCH	30	22.02	23.4	1.35	0.62	0.11	11.77	<0.001
MCHC	30	30.83	32.1	1.24	0.91	0.17	7.47	<0.001

Table Showing overall Effect of Tintidimandooram On Clinical Features of Pandu: A

Result	Assisment	No. Of Patients	% of patient
Cured	Haemoglobin increased by ≥ 2 gm% $\geq 75\%$ relief in signs and symptoms.	0	0
Remarkable Improved	Haemoglobin increased by 1 to 2 gm% 50 to 75% relief in signs and symptoms.	1	3.33
Improved	Haemoglobin increased by 0.5 to 1 gm% 25 to 50% relief in signs and symptoms.	26	86.67
Unchanged	Haemoglobin increased by 0 to 0.5 gm% < 25% relief in signs and symptoms.	3	10

Effect of Treatment on Clinical Features of Pandu: Group B

Signs & Symptoms	N	Mean Score		Mean diff.	p value
		B.T.	A.T.		
Vivarnatva	30	1.37	0.53	0.84	<0.001
Shrama Shwasa	30	2.10	1.23	0.87	<0.001
Akshikutashoth	30	1.13	0.5	0.63	<0.001
Agnimandya	30	1.30	0.63	0.67	<0.001
Bhrama	30	1.87	1.17	0.70	<0.001

Effect of Treatment on Haematological Investigations of Pandu: Group B

Haematological values	N	Mean Score		Mean diff.	S.D.	S.E.	t value	p value
		B.T.	A.T.					
Hb%	30	8.50	9.18	0.69	0.21	0.04	18.08	<0.001
RBC	30	3.97	4.05	0.08	0.08	0.02	5.23	<0.001
PCV	30	27.26	28.46	1.21	0.85	0.15	7.79	<0.001
MCV	30	67.74	71.96	4.22	1.62	0.30	14.26	<0.001
MCH	30	21.66	23.23	1.57	0.64	0.12	13.34	<0.001
MCHC	30	30.78	32.47	1.68	0.76	0.14	12.19	<0.001

Table Showing overall Effect of Ferrous Fumarate On Clinical Features of Pandu: Group B

Result	Assessment	No. Of Patients	% patient
Cured	Haemoglobin increased by ≥ 2 gm% $\geq 75\%$ relief in signs and symptoms.	0	0
Remarkable Improved	Haemoglobin increased by 1 to 2 gm% 50 to 75% relief in signs and symptoms.	2	6.67
Improved	Haemoglobin increased by 0.5 to 1 gm% 25 to 50% relief in signs and symptoms.	26	86.67
Unchanged	Haemoglobin increased by 0 to 0.5 gm% $< 25\%$ relief in signs and symptoms.	2	6.67

COMPARATIVE ANALYSIS

Symptom	Mean of diff. Gr. A	Mean of diff. Gr. B	Diff. of Diff. Of Mean	p value	Conclusion
Vivarnatva	1.13	0.84	0.29	0.02	Significant
Shrama Shwasa	1.16	0.87	0.29	0.01	Significant
Akshikutashoth	0.8	0.63	0.17	0.83	Insignificant
Agnimandya	1.23	0.67	0.56	0.0001	Significant
Bhrama	1.07	0.7	0.37	0.04	Significant

SYMPTOMATOLOGICAL CONSIDERATION & EFFECT OF THERAPIES:

Vayvarnatva

- In both groups result was highly significant ($p < 0.001$) due to raktavardhaka properties were present in both groups.

Shrama shwas

- Statistically result was found highly significant ($p < 0.001$) in both the groups.
- Akshikutashotha: The relief was good in both the groups, in both the groups statistically highly significant ($p < 0.001$) result was obtained.

Agnimandya:

- Statistically highly significant result was obtained in both the groups.

Bhrama

The relief was good in both the groups, in both the groups statistically highly significant ($p < 0.001$) result was obtained.

Comparison of treatments

• Group A

Patients in this group were treated with **Tintidimandooram**. Highly significant relief was obtained in symptoms of Vayvarnatva, Shrama Shwasa, Akshikuthashoth, Agnimandya, Bhrama. Also regarding haematological result significant result was obtained in Hb%, RBC, PCV, MCV, MCH & MCHC.

• Group B

Patients in this group were treated with **Ferrous Fumarate** highly significant but less than group A relief was obtained in symptoms of Vayvarnatva, Shrama Shwasa, Akshikuthashoth, Agnimandya, Bhrama. Also regarding haematological result significant result was obtained in Hb%, RBC, PCV, MCV, MCH & MCHC.

Dicussion On Probable Action Of Tintidimandooram

Name Of Drug	Tintidi	Pippali	Mandoor Bhasma
Latin Name	Tamarindusindica Linn.	Piper longum	Ferri peroxidum rubrume (Fe ₂ O ₃)
Rasa	Amla	Katu	Kashaya
Virya	Ushna	Anushna	Sheet
Vipaka	Amla	Madhur	Katu
Guna	Laghu, Ruksha	Laghu, Snigdha, Tikshna	Sheet

Dicussion On Probable Action Of Tintidimandooram

- **Uttam Mandoor bhasma** is vrushya, sheeta, ruchivardhak, agnideepak, pittashyamak and uttam raktavrudhikar.
- Mandoor Bhasma is already in Ferric form that's why it get absorbed directly in to the body.
- **Pippali** is rasayana, katu, anushna, madhur, laghu, snigdha, tikshna in guna
- Pippali is katu rasatmaka, madhurvipaki and Raktagami it directly acts on Raktavaha Strotasa and increases Rakta dhatu. Pippali is also Yogavahi and Rasayana, Rasayana regulates metabolism and increases immunity and strength. When Pippali is mixed with other drugs, efficiency of those get increased.
- **Tintidi** is amla, ushna, ruksha in guna. Tintidi helps in absorption of Mandoor Bhasma. Tintidi is Ruchikar Depaniya and grahi which acts on Aruchi, trushna, chardi and Agnimandya. Tintidimandooram has higher absorption rate than other drugs and also chiper than modern drugs.

CONCLUSION

- The treatment of Tintidimandooram in Garbhini Pandu was very effective.
- Due to samprapti bhanga, Tintidimandooram was significant for observed symptoms such as Vayvarnatva, Shrama Shwasa, Akshikuta Shotha, Agnimandya and Bhrama.
- The effect of Tintidimandooram on Agnimandhya & Shrama shwas was better than Ferrous Fumarate.
- Haematological results were nearly same for both the groups.
- In present study, mostly peripheral smear for all patients was Microcytic Hypochromic it shows “Iron Defficiency Anaemia”.
- In IDA, commonly found that there is improper iron absorption in GIT.
- Tintidimandooram improved metabolism and absorption rate of Mandoora Bhasma in Garbhini pandu.
- Ferrous iron can absorbs better than Inorganic ferrous and ferric salts.
- No side effect on Garbhini Pandu was observed after treatment.
- Tintidimandooram shown no adverse effects on foetus and mother it can be continued upto delivery and after delivery.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Study Of *Ruddhva Swedaambuvahini* In *Jalodar* W.S.R . To Sodium And Water Retention In Ascites '

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Abstract:

"रोगःसर्वेःअपि मन्देअग्नौ सुतरामुदरानिच" (अ.ह.नि.१२/१)

All diseases are produced by Extreme Mandagani ;especially causes Udar by its extreme .Ajirna, Malinanna, Malasanchaya leads to accumulation of the Doshas ,they in turn get aggravated and all Strotasa especially blocked the channels of Ambuvaha & Swedavha in the upper and lower parts of the body, bring about abnormalities in the Prana (Vata) ,Agni ,& Apan (Vata) get Apachit Aaharrasa localized in between the skin and the muscles of the abdomen in the form of Dravaansha producing Udar by making the abdomen big in size .

Jalodar as per modern medicine in Ascites .Retention of sodium with its increase in plasma volume is an important factor in Ascites formation. Sodium is almost entirely absent from urine ,sweat and saliva of patients with ascites . Almost all sodium ingested is incorporated with ascetic fluid and the serum sodium level is often low.

Here by literature review Swedavaha and Ambuvahastrotorodha in Udar is elaborated in the light of Ascites.

Keywords: Udar,Ruddhva Swedaambuvahini,Jalodara ,Sodium-Water retention , Ascites.

Introduction

Ayurvedic term Udarvyadhi is homologous to Ascites described in modern medicine. According to Ayurveda,fluid accumulates in Abhyantar Twachya the peritoneal cavity in ascites which is same as modern medicine .

All Ashtodar are generally caused by the congregation of Doshas .In human beings different disease groups particularly the abdominal disease arise from the defect of Agni due to increase of Malas .If person indulges in foods activities during weak digestion leads to improper digestion and gradually accumulation of Doshas, which affecting Prana ,Agni and Apana, and blocking upward and downward passages reaches the interspace between skin and muscle and blows up abdomen. Accumulated Doshas obstruct the Swedavaha and Ambuvahastrotras and vitiate Pran ,Agni and Apana leading to the manifestation of Udarroga.⁽¹⁾

One of its type is Jalodar ,it has two stages. First Ajatodakawastha - where the fluid accumulation is not justified ,here Vata is predominant. As Jalodar is Ashukari the Pichhawastha is not seen and immediately there is another stage Jatodakawastha ,here Tridosha's are have

predominance and we can see *Udakapradurbhava* in *Abhyantar Twachya*, which leads to *Sirantardhran*, *Udakadrutisparsha*, *Sankshobha*.

Here *Aadankarma* of *Prana*, *Pachankarma* of *Agni*, *Malavisarjanakarma* of *Apana* get deranged which also leads to formation of *Ama* which is responsible for *Swedavaha* and *Ambuvahastrodha* (च. चि13/55)

Ascites in the accumulation of excessive volume of fluid within the peritoneal cavity. It frequently accompanies cirrhosis and other diffuse liver diseases. The development of Ascites is always associated with haemodilution, oedema and decreased urinary output. The mechanism involved are hypoproteinaemia, portal hypertension leading to raised hydrostatic pressure, hyperaldosteronism, stimulation of renin-angiotensin mechanism promoting sodium and water retention.

Retention of sodium with its increase in plasma volume is an important factor in Ascites formation. Sodium is almost entirely absent from urine, sweat and saliva of patients with Ascites. Almost all sodium ingested is incorporated with ascitic fluid and the serum sodium level is often low.⁽²⁾

Aim : Study of *Samprapti Ghatka Ruddhvasevedaambuvahini* in *Jalodara* and sodium water retention mechanism in Ascites.

Objectives:

1. To study and compile all the references of *Jalodara* and Ascites from all Ayurvedic text and modern text.
2. To correlate *Ruddhva Swedaambuvahini* in *Jalodara* and pathogenesis in Ascites in light of sodium - water retention.

Review And Discussion :

Components of Samprapti Of UDAR are as follows⁽³⁾ :

Dosha :

Tridosha

Vata

⇒ *Prana - Aadankarma Vikriti*

" क्षुन्नाशुःस्वादुअतिस्निग्धगुर्वन्न पचति चिरात् " (च.चि13/16-19)

Apana - Visarjanakarma Vikriti -

(*Vatpurishsanga, Mutrasanga, Swedaavrodha*)

Samana

Pita

⇒ *Pachaka (Agnimandya)*

Kapha

⇒ *Kledaka (Agnimandya)*

Dushya :

Dhatu ⇒ Rasa, Mamsa
Upadhatu ⇒ Tavcha, Vasa
Sharirika Mala ⇒ Mutra, Purisha, Sveda

Agni ⇒ Jatharagni, Dhatvagni

Agnidushti ⇒ Mandata " सहते नाति सौहित्यम च "(च. चि 13/16-19)

Ama ⇒ Agnijanya

Strotas ⇒ Swedavaha, Ambuvaha, Rasavaha,
Mamsavaha, Annava

Strotodushti ⇒ Sanga, Vimargagamana
"कोष्ठत उपस्नेहवत अन्नसरो निःसृत्य" (सु.नि.7/6)

Udbhavasthana ⇒ Amasayottha, (Kosth) Grahani Vikriti

Adhisthana ⇒ Udara, Tvaca (त्वक् मांसान्तरम)

Vyaktasthana ⇒ Udar

Rogamarga ⇒ Kosthamarga

Swabhava ⇒ Chirakari (अष्टोमहागद)

Rogabheda ⇒ 8 types - Vatodara, Pittodar, kaphodara, Plihodara, Sannipatodara, and Jalodara, the subsequent ones more and more difficult for treatment than the previous ones.

Ayurvedic Samprapti of JALODAR ⁽⁴⁾:

Agni becomes weak because of excessive intake of water after the administration of oleation therapy or by a person suffering from Mandagni or by an individual who is cachectic or excessively emaciated. As a result of this, Vata located in Kloma gets interrupted with Kapha and Udaka dhatu increases the quantity of that Udaka in the obstructed channels of circulation. The vitiated Kapha and Vata from their own locations assist in increasing this Udaka as a result in Jalodara.

Purvarupa and Lakshana of JALODAR ⁽⁵⁾:

Anannaakangasha (Loss of appetite), Pipasa, Gudastrava, Shula, Shwasa, Kasa, Daurbalya, Nana Varna Raji Sira Santatam (appearance of network of veins having different colours over the abdomen) and Udaka Purna Druti Sparsha (on palpation has fluctuation like leather bag filled with water) It is known as Udakodara.

Sweda⁽⁶⁾ :

Sweda means sweat .The *Sweda* described excretory product of fatty tissue in the body, by *Charaka*.The function of sweat is maintenance of normal wetness of the skin.*Vagbhata* (अ.ह.सु.11/5) has described the function of sweat as “स्वेदस्य क्लेद्विद्धृति” :i.e holding up of skin excretions (*klled*) .The root site of system of sweating is fatty tissue and hairs follicles. The causes of vitiations of this system leads to increase or decrease of sweat.

Agni⁽⁷⁾ :

Agni is the variable agent in the process of *Paka*(chemical action) indigested food is to be digested ,absorbed & assimilated which is unavoidable for the maintenance of life & is performed by *Agni*. If *Agni* of a person is vitiated the whole metabolism in his body would be disturbed ,resulting in ill health & disease , hence *Agni* is said to be the *Mool* (base of Life).Here In *Ascites* while forming *Uadka* in *Aabhyantar Tavchya* is by the same rule.

Kedari-Kulyanyaya⁽⁸⁾ :

In *Kedari-kulyaNyaya* ,pattern of distribution of nutrients is analogous to distribution of water to plots in paddy fields .This analogy refers to the system of distribution of water from a river,lake or canal which branches &rebranches to supply water to the nearest as to the farthest plots under cultivation.

Salt⁽⁹⁾ :

Salt is made up of two electrically charged particles sodium and chloride also called electrolyes. In our body ,sodium helps keep the right amount of water inside and outside your cells and in blood.

Sodium In Sweat⁽¹⁰⁾ :

The average male's body contains about 75000 milligrams of sodium ,the equivalent of 11 tablespoons of salt when you exercise you lose sodium via sweat. The amount of sodium in sweat average about 500mg sodium /lb sweat and ranges from 220 to 1100mg.

Sodium Retention In Ascites⁽¹¹⁾ :

Retention of sodium with its increase in plasma volume is an important factor in *Ascites* formation. Sodium is almost entirely absent from urine ,sweat and saliva of patients with *ascites* . Almost all sodium ingested is incorporated with ascetic fluid and the serum sodium level is often low.

In cirrhotic ,*Ascites* develops after ingestion of sodium chloride ;salt is retained isotonicly.when salt ingestion is stopped ,accumulation of fluid ceases and urine increases by amounts .(as compared to weight gain with salt ingestion.)

After paracentesis ,water is retained in excess of the salt.

The sodium space of the body is increased in cirrhosis .water retention is secondary to sodium retention ,but it may be a primary factor in certain circumstances.(eg.water retaining effect after excessive vasodepressor factor.VDM) altered renal function. In hepatic oedma and

Ascites ,disturbed renal and sodium excretion is important . Two factors may be responsible eg.
1)reduced Glomerular filtration
2)Increased tubular reabsorption of sodium and both these factors may operate in cirrhosis ,the latter being more important.

Water Retention In Ascites⁽¹²⁾ :

The kidney is continuously generating free water in the ascending limb of the loop of Henle by a mechanism consisting in an active reabsorption of sodium chloride without concomitant reabsorption of water .The final volume free water excretion ,therefore ,depends on the amount of free water reabsorbed in the more distal segment of the nephron ,the convoluted distal tubule and the collecting tube. This process is mediated by ADH (Antidiuretic hormone).The decrease GFR may lead to decreased delivery of sodium chloride to the ascending limb of the loop of Henle and, therefore to an impaired generation of free water.

Discussion :

Physician should treat this condition immediately before the appearance of any complications & before accumulation of liquid in the abdomen. If the treatment is neglected, then the vitiated *Doshas* get displaced & become liquefied as result of *Paripak* , cause stickiness in the joints and channels of circulation & divert sweat from the external channels as result of which it moves sideways, this zigzag moving sweat adds to the quantity of water already accumulated on the abdomen. the appearance of this sticky liquid makes the abdomen round, heavy & numb. The abdomen becomes dull in percussion & soft to touch. Thereafter, the network of veins disappears during this period. The umbilical region is primarily afflicted ,Thereafter water starts accumulating in the abdomen leading to excessive enlargement of the sides of abdomen, with appearance of the network of veins. On palpation physician feels as if abdomen is a leather sack filled with water.

Jalodara has two stages during first stage ,water accumulation does not takes place in the abdomen & it is called *Ajatodaka* stage, When the vitiated *Doshas* get matured they become liquefied by nature. Because of the obstruction in the channels of circulation in the exterior of the body, the sweat becomes incapable of going out as it happens in normal conditions. If moves inwards as a result of sticky materials appears in the abdomen. According to some scholars ,*Piccha* is like the scum which comes out while boiling rice .It is because of the accumulation of this sticky liquid inside the *Aabhynatar Tawchya*, that the physician by palpation feels the abdomen like a leather sack filled with water.

Conclusion :

In the patient of *Udara having Shushkavakra* (dryness of mouth),*Krishagatra* (Emaciation of the body ,weight loss ,*Aadhmana Udar Kukshaya* (distention of the abdomen & pelvis),*Prashant Agni*, *Bala Aahara* (loss of digestive fire ,appetite and strength ,Incapable of doing work) and breathing their last breath as Orphan needs effective Ayurvedic therapies .Here take care of vitiated *Prana* ,*Agni* and *Apna* with obstructed the upword and downword channels of *Swedavaha* and *Ambuvaha strotas* which are responsible for *Udarvridhi*.

In light of modern science accumulation of ascetic fluid represents a state of total body sodium and water excess .Activated plasma renin ,aldosterone and sympathetic nervous system results in renal sodium and water retention with absence of salt in sweat. So considering this as *RUDDHVA SWEDAAMBUBVAHINI* patient should be taken care of make the *Vyadhi Yapy*.

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Study of Anidra (Insomnia) With Special Reference to Essential Hypertension as a Stress Disorder

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Abstract

Introduction- *Nidra* is one among the “*Trayopasthambha*”. *Vata and Pitta* are the Pradhana Doshas contributing to *Anidra*. *Aswapna* is included in *Vataja Nanatmaja Vikaras* where quantity of *Nidra* is reduced.

Aim- To study *Anidra* with special reference to Essential Hypertension as a stress disorder **Objectives- 1.** To study the *Anidra* in relation to Essential Hypertension. **2.** To assess the *lakshanas* associated with *Anidra*.

Methodology- Study design- Descriptive observational study. Total 30 patients of either gender between the age group of 35 to 60 years were selected randomly for the study.

Results- *Lakshanas* like *Jrimbha* (Yawning) and *Tandra* (Drowsiness) were found in 36.66 % patients while, *Smritidourbalya*, *Manodourbalya*, *Glani*, *Shirashoola* and *Malabaddhata* were the least (6.66 %) common *lakshanas* of *Anidra*.

Discussion- Out of total, 6 (20 %) subjects were having *Raja Pradhan Manas Prakriti* suggesting its prime role in causing Essential hypertension. We also found that out of total study subjects, total 7 (23 %) subjects were having *Vata-pitta Pradhan Deha Prakriti*. . Maximum patients were in stage 1 hypertension with blood pressure between 140-159 mmHg systolic and 90-99 mmHg of diastolic.

Conclusion- *Jrimbha*, *Tandra*, *Arati*, *Manodourbalya* and *Ajirna* were the common symptoms found in patients suffered from *Anidra*.

Key Words- Essential Hypertension, *Anidra*, *Jrimbha*, *Tandra*, *Vata dosha*.

Introduction

Nidra is one among the “*Trayopasthambha*”.¹ *Vata and Pitta* are the Pradhana Doshas contributing to *Anidra*.² *Aswapna* is included in *Vataja Nanatmaja Vikaras* where quantity of *Nidra* is reduced.³ There is also an opinion that increased *Pitta* is responsible for *Alpa Nidra*, where there is reduction in quality of *Nidra*.⁴ Both *Alpa Nidra* and *Nidranasha* can be correlated to insomnia as it fits to the definition.

Anidra (Insomnia) is the most common sleep problem worldwide. It can lead to many psychosomatic manifestations like fatigue, high blood pressure, lack of concentration and ultimately reduce the productivity and badly hampers the quality of life. *Ayurveda* advocates some fruitful panchakarma therapies like *Nasya*, *Shirodhara* and *Murdhni Chikitsa* for *Mana* and *Indriya Vikaras*. *Anidra* can be clinically correlated with Insomnia.⁵

One out of every twenty Indian suffers from sleep disorder. Indian women 6.5% outnumber men 4.3%, when it comes to disturbed sleep. 16% of the population suffered from insomnia in India not far from the 20% that suffer from insomnia in the West. The findings suggest that, sleeplessness epidemic affects an estimated 150 million in developing world. In 20 years, over 260 million people will experience sleep disorders. 5% to 6% of people aged 50 years and above may be affected by sleep disorders in India.⁶

Ayurveda has described *Nidra* among the primary tripod of life⁷ where the total abstinence of it may harm the life. *Nidranasha* is one of the *Vataja Naanaathmaja Vikara*⁸ where it is mainly caused by *Vata Dosh* or *Pitta Dosh* or due to *Manastaapa*, *Sosha* or *Abhigata* in which *Moordhini Taila* is mentioned as one of its treatment⁹

Hypertension is the most prevalent cause for cerebrovascular and cardiovascular disorders, causing high rate of mortality and morbidity. Hypertension is also known as “silent killer” of mankind because most sufferers 85% are asymptomatic and as per available reports, in more than 95% cases of hypertension the underline causes are not found.¹⁰ It is estimated that 600 million people are affected worldwide with hypertension. By the year 2025, approximately 1 in 3 adults aged over 20 years, totally 1.56 billion people worldwide, will have hypertension.¹¹

The first and foremost aim of *Ayurveda* is to maintain the health of healthy individuals i.e. ‘*Swasthasya Swasthya Rakshanam*. To achieve this aim, *Shirodhara* can be a significant treatment modality. This procedure induces a relaxed state of awareness that results in a dynamic psycho-somatic balance. It is included in the varieties of the *Murdha Taila*, which are *Abhyanga*, *Seka*, *Pichu* and *Basti*¹²

The aim of present study was to evaluate the *Anidra* (Insomnia) with special reference to Essential Hypertension as a Stress disorder.

Aim- To study *Anidra* with special reference to Essential Hypertension as a stress disorder.

Objective-

1. To study *Anidra* in relation to Essential Hypertension.
2. To assess the lakshanas (symptoms) associated with *Anidra* and Essential hypertension.

Material and methods

Study Design : Descriptive Observational Study

Study Place : A clinical study of patients attending OPD and IPD of Post Graduate Department of Kayachikitsa in our institute will be made and subjects fulfilling the criteria of diagnosis as per the Performa will be selected for the study.

Study Tool: A clinical evaluation of patients will be done by collection of data through information obtained by history, physical examination.

A well structured questionnaire was used for the study. Blood pressure reading were measured (by Sphygmomanometer and manual method). Observations like Pulse Rate, Blood Pressure, Respiratory Rate will be noted.

Study Population-

Total 30 patients of either gender between the age group of 35 to 60 years were selected randomly for the study. The cases are selected as per signs and symptoms of *Anidra* (insomnia) w.s.r. Essential hypertension.

Ethical clearance and verbal consent was obtained before the conduction of study.

Diagnostic criteria-

1. For diagnosis detailed medical history, mental examination will be carried out and physical

examination will be done as per the Ayurvedic and modern methods.

2. Guidelines mentioned in ICD-10 will be followed.¹³

- a) A complaint of difficulty falling asleep, maintaining sleep, or non refreshing sleep.
- b) The sleep disturbance occurs at least three times per week for at least one month.
- c) The sleep disturbance results in marked personal distress or interference with personal functioning in daily living.
- d) Absence of any known causative organic factor, such as neurological or other medical condition, psychoactive substance use disorder or a medication.

a) Inclusion Criteria

- Patients who present with clinical features of *Anidra*
- Patients of either gender between age group of 35 to 60 years
- Patients complaining of reduction in sleep time, difficulty in initiation of sleep, wakefulness during normal sleep – either any of these or all of these for the duration of 3 months or more.
- Patients with *Nidranasha* complaining of *Angamarda*, *Shirogurava*, *Jrimbha*, *Jadyata*, *Glani*, *Bhrama* and *Apakti* - either some of these or all.
- Patients already diagnosed with insomnia with the duration of 1 month to 5 years.

b) Exclusion Criteria

- Patients having age below 35 years and above 60 years.
- Patients who are having Secondary hypertension due to Metabolic, Endocrinal and Chronic systemic disorders.
- Subjects diagnosed with Coronary artery disease, Ischemic heart disease, history of Myocardial infarction, Congestive cardiac failure, Cerebro-vascular accidents.
- *Nidranasha* due to other conditions like *Madatyaya* and *Abhigata*.
- *Nidranasha* associated with any other Systemic, Metabolic and Psychiatric disorder.

Literary source:

- All the classical, modern literatures and contemporary texts including the websites about the disease and clinical parameters will be reviewed and documented for the present study.
- Review of literature will be collected from Post Graduate Library of our Ayurved Mahavidyalaya.

Results and Discussion

Table 1. Distribution of patients as per the *lakshanas of Anidra* (n=30)

<i>Lakshanas (Symptoms)</i>		Total	
Ayurvedic term	English term	Frequency	Percentage
<i>Jrimbha</i>	Yawning	5	16.66
<i>Tandra</i>	Drowsiness	6	20.00
<i>Angmarda</i>	Malaise	2	6.66
<i>Arati</i>	Fatigue	3	10.00
<i>Smritidourbalya</i>	Lack of memory	2	6.66
<i>Manodourbalya</i>	Lack of concentration	3	10.00
<i>Glani</i>	Gidiness	2	6.66
<i>Shirashoola</i>	Headache	2	6.66

<i>Malabaddhata</i>	Constipation	2	6.66
<i>Ajirna and Agnimandya</i>	Indigestion	3	10.00

Table 1 shows , *Lakshanas* (Symptoms) like *Jrimbha* (Yawning) 16.66 % and *Tandra* (Drowsiness) 20.00 % were found in maximum number of patients, while *Smritidourbalya*, *Angmarda*, *Glani*, *Shirashoola* and *Malabaddhata* were the least common (6.66 %) *lakshanas* (symptoms) associated with *Anidra*.

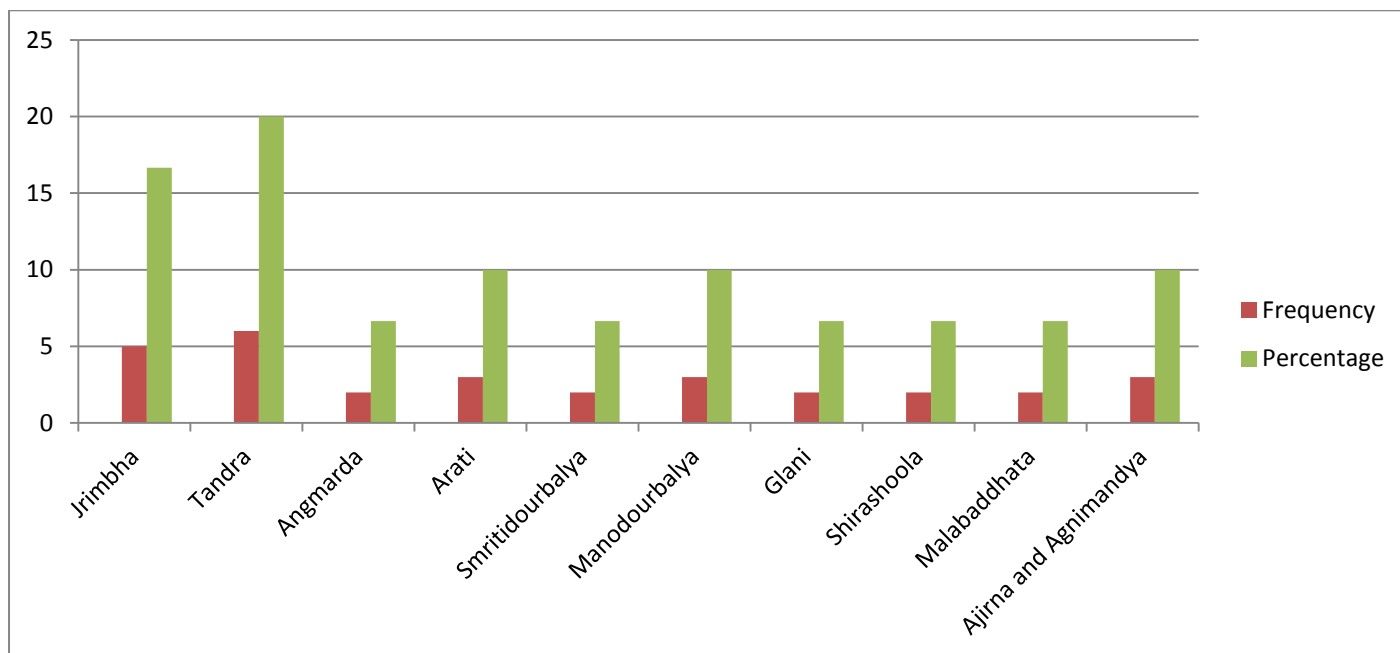


Fig. 1. Distribution of patients as per the *lakshanas* of *Anidra* (Insomnia)

Table 2. Distribution of patients as per the grades of hypertension ¹⁴ (n=30)

Blood pressure (In mmHg)	Grades	Frequency	Percentage
Systolic Pressure			
130-139	High normal	5	16.66
140-159	Stage 1 hypertension	13	43.33
160-179	Stage 2 hypertension	10	33.33
> 180	Stage 3 hypertension	2	6.66
Diastolic Pressure			
80-89	High normal	4	13.33
90-99	Stage 1 hypertension	12	40.00
100-110	Stage 2 hypertension	11	36.66
> 110	Stage 3 hypertension	3	10.00

Table 2. showing patients as per the grades of hypertension. Maximum patients were in stage 1 hypertension with blood pressure ranging between 140-159 mmHg systolic (43.33%) and 90-99 mmHg of diastolic blood pressure (40.00 %). While only 6.66 % and 10 % of patients were in stage 3 hypertension (both Systolic and Diastolic Blood Pressure respectively).

Table 3- Distribution of patients as per the symptoms of Essential Hypertension (n=30)

Symptoms	Frequency	Percentage
Giddiness	7	23.33
Fatigue	4	13.33
Headache	3	10
Dyspnea	2	6.66
Palpitation	3	10
Tinnitus	1	3.33
Insomnia	6	20
Irritability	2	6.66
Anxiety	2	6.66

Table 3 shows, symptoms of Essential Hypertension. Giddiness 23.33 % and insomnia 20 % were most common symptoms; while tinnitus 3.33 %, irritability 6.66 % and anxiety 6.66 % were the least common symptoms observed in the patients.

Table 4- Distribution of patients as per their *Dashvidh Pariksha* (n=30)

<i>Dashvidh Pariksha</i>		Frequency	Percentage
<i>Deha Prakriti</i>	<i>Vata- pitta Pradhana</i>	7	23.33
<i>Manasa Prakriti</i>	<i>Raja Pradhana</i>	6	20.00
<i>Sara</i>	<i>Madhyama</i>	4	13.33
<i>Samhanana</i>	<i>Madhyama</i>	3	10.00
<i>Pramana</i>	<i>Madhyama</i>	2	6.66
<i>Satva</i>	<i>Madhyama</i>	5	16.66
<i>Saatmya</i>	<i>Madhyama</i>	2	6.66
<i>Vyayama Shakti</i>	<i>Madhyama</i>	3	10.00
<i>Abhyavaharana Shakti</i>	<i>Avara</i>	2	6.66
<i>Jarana Shakti</i>	<i>Avara</i>	3	10.00

Table 4 shows, distribution of patients as per the their *Dashvidh Pariksha*. It was found that out of total 30 participants, 6 (20 %) subjects were having *Raja Pradhan Manas Prakriti* suggesting its prime role in causing Essential hypertension. We also found that out of total study subjects studied, total 7 (23 %) subjects were having *Pitta-vata Pradahana Deha Prakriti*. Out of total patients, only 2 (6.6 %) of patients were having *Madhyama pramana, saatmya and Abhyavaharana shakti*.

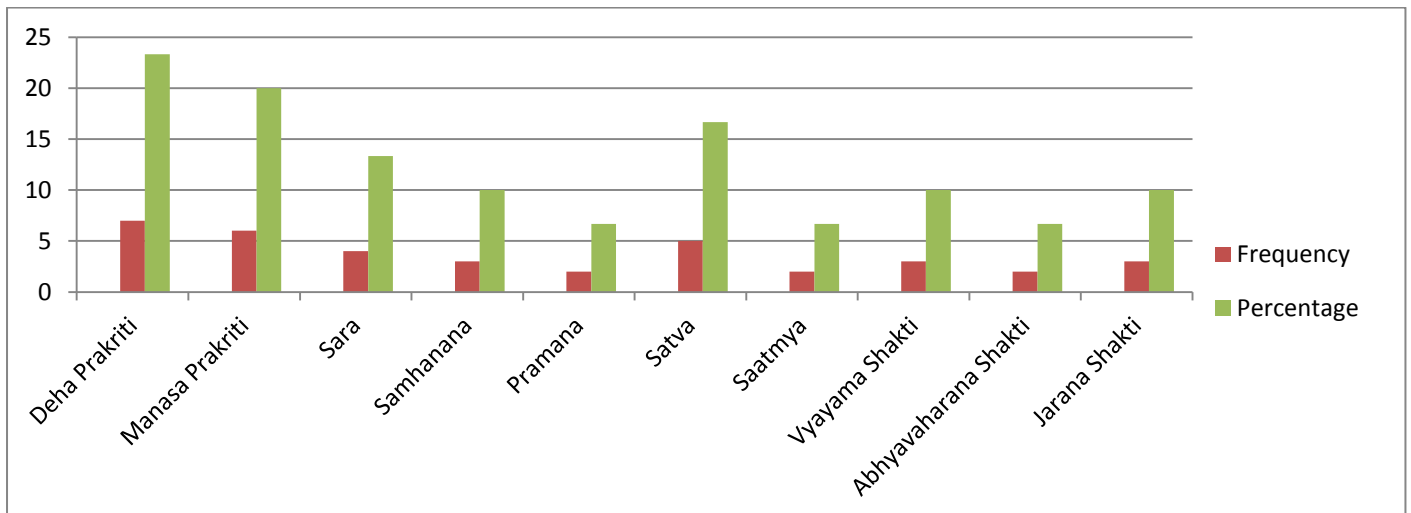


Fig. 2- Distribution of patients as per their *Dashvidh Pariksha*.

Discussion

Symptoms like *Jrimbha* (Yawning) and *Tandra* (Drowsiness) were found in maximum (36.66 %) of patients., while *Smritidourbalya*, *Manodourbalya*, *Glani*, *Shirashoola* and *Malabaddhata* were the least common (6.66 %) symptoms associated with *Anidra*.

It was found that, maximum patients were in stage 1 hypertension with blood pressure ranging between 140-159 mmHg systolic (43.33%) and 90-99 mmHg of diastolic blood pressure (40.00 %). While only 6.66 % and 10 % of patients were in stage 3 hypertension (both Systolic and Diastolic Blood Pressure respectively).

It was found that out of total 30 participants, 6 (20 %) subjects were having *Raja Pradhan Manas Prakriti* suggesting its prime role in causing Essential hypertension. We also found that out of total study subjects studied, total 7 (23 %) subjects were having *Vata-pitta Pradhan Deha Prakriti*. Out of total, very less proportion i.e. 2 (6.6 %) of patients were having *Madhyama pramana*, *saatmya* and *Abhyavaharana shakti*.

Ayurvedic herbal remedies, dietary suggestions, lifestyle management and shirodhara work well with *anidra* and stage 1 hypertension. The constant flow of liquid in a specified manner relaxes the mind, calms and tranquilizes the patients. The prescribed medicated oil or liquid is continuously poured over the forehead (the third 'eye') pacifies *Vata* along with other two *Doshas*, *Pitta* and *Kapha*.

The Ayurvedic aspect of mechanism of action of *Shirodhara* can be well understood by the concept of *Tridosha*. To be more precise it may have probable effect on *Tarpaka*, *Kapha* and *Sadhak Pitta*. It also increases *Tarpaka Kapha*; has a sedative and soothing effect on brain and it regulates vital parameters. *Ksheerodhara* exerts its pacifying effects on *Sadhaka Pitta* and regulates function of *Hridaya*. Thus it helps to maintain heart rate i.e. pulse rate and blood pressure.

Conclusions

1. *Jrimbha*, *Tandra*, *Arati*, *Manodourbalya* and *Ajirna* are the most common symptoms found in the patients suffered from *Anidra* (Insomnia).
2. As *Shirodhara* has a *Vata-Pitta Shamaka* property which not only reduces stress but also enhances the circulation of brain, nourishes the hair on scalp, calms the mind and body and helps to beat insomnia as well. It can be chosen since it is a very simple non-invasive procedure; can be performed in outpatients, cost effective and gives immediate relaxing effect. Therefore, it can be concluded that, it is very safe and effective modalities used in the management of *Anidra* with associated Essential hypertension.
3. Maximum proportion of patients were having *Raja pradhan manas prakriti* and *Deha pradhan vata-pitta prakriti* suggesting its prime role in causing Essential hypertension.
4. Essential hypertension is manifested by aggravation of all the *Doshas* with predominance of *Vata doshas*. *Rajas* and *Tamas* are the *mansa doshas* where as *srotas* involved are *rasavaha*, *rakta*, *mamsa* and *meda*. Thus, Essential Hypertension is mainly a *Tridoshaja Vyadhi* having the dominance of *Vata dosha*.

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Abstract

In Ayurveda the Acharya Charak, Sushruta and Vagbhata explains the Rutucharya in their samhitas .Rutucharya is divided in 6 Rutu's . Every single Rutu has it's own Qualities and Importance . They also suggested various Panchakarma according toRutu's.If we not follow the proper diet According to Rutu'sand during the panchakarma explain in their rutu's, then various diseases are produced. So, In my article I want to explain you all what type of diet and Panchakarma follows in various Rutu's and what is beneficial for us in Rutu's& there Panchakarma.

Keywords – Ayurveda ,Rutucharya , Panchakarma , Disease.

Introduction:-

In India we consider only 3 Rutu's (seasons) i.e summer, winter & spring. But, in Ayurveda various Acharya's explain 6 types of Rutu's .Every single Rutu explained about it's own qualities . The Acharya divided that 6 Rutu's into two categories i.e Aadankala and Visargkala. In Aadankala, the power of human goes on decreasing as well as the temp of sun goes on increasing. Shishir, vasant and grishmarutu's are under the Aadankala.

In visargkala , the power of human goes on increasing and the temp. of sun goes on decreasing. varsha ,sharad and Hemantrutu's are come under the visargkala. In Rutucharya we have to think about the panchakarma and also diet according to that panchakarma taken on that particularly that rutu..

Panchakarma is divided into 3 groups i.e Poorvakarma , Pradhankarma&Paschatkarma.

- In Poorvakarma snehan &swedan are included.
- In PradhankarmaVaman,Virechan , Basti , Nasya&Raktomokshan are included.
- In Paschatkarma Sansarjankrama ,Tarpanyog are included.
- In Panchakarma Abhyanga ,Utsadana ,Shirodhara , Mardanaarealso included.

Aim And Objective:-

1. To study the Rutu's in details
2. To study the Rutu'swise Aahar&Panchkarma.
3. To draw the conclusion from the study .

Ayurvedokta Ritu's:-

1. ShishirRutu's:-(December- January)

In ShishirRutu the coldness in environment is very high and the kaphadosha goes on increasing. In this Ritu there is kaphasanchay kala. There is a dewy environment. The Rutucharya of shishir and Hemant Ritu is same but the coldness in ShishirRutu is more. The diet of shishir and hemantritu is same. In shishirRutu, the advised panchakarma suggested by the Acharya's are Abhyang,swedana (sudation therapy)and one type of Snehapana (oleation therapy) i.e.Abhyantersnehapana.

2. Vasant Ritu :- (February - march)

It is the second Ritu included in Aadankala. In this Ritu, the digestive power of people are decreasing. In this Ritu, there is a kaphaprakopkala .so, the increased kapha are liquefied by the heat of sun. That decreased Agni give rise to various disease related to kapha dosha. In this Ritu the person should take the food which are easily digestible. The meat of desert animal, the grains like yava (barley),godhuma(wheat), ksandra(honey), Asava (fermented infusion), Arishta(fermented decoction), juices like mango and grape should be taken.

The water boiled with musta should be used for drinking. The person should spend time with friends in forests, do the sexual activities. In vasantRutu, the advised panchakarma are Vaman (Emesis therapy)Virechan (Purgation therapy), Basti (Enema therapy), Nasya. "Vaman (emeis therapy)"panchakarma is the best panchakarma treatment for liquification of kapha dosha in this Ritu.

- Avoid – Heavy food, Divaswap (afternoon sleep), Fatty food. Sour & sweet food.

3.Grishma Ritu :- (April – may- june)

GrishmaRutu is the last Ritu in Aadankala in this Ritu the Temp of the sun goes on increasing, while the sneha (oiliness) in the body goes on decreasing. In this Ritu the food having sweet taste and easily digestible should be taken. Liquid diet also taken. According to the Acharya's the vatdosha in this Ritu is increased. The special quality of this Ritu is "Kundpushpa ." Kundpushpameans the Rice boiled like kunda flower eat with the meat of desert animals at the night time under the moon. cold water should be taken for drinking purpose. Buffalo milk mixed with sugar and should be taken under the moonlight and stars and used for drinking purpose. The daytime should be spending in forests having tall trees like Sala etc. For the sleeping purpose the person should use the terrace of the house. The person should wear the garlands of flower like karpura, Mallika and pearls. person should wear the light and thin dresses not the heavy one. For the grishmaRutu no particular panchakarma was suggested because of the sun heat but the people can use the bahyntersnehana.

- Avoid – The food like salty, sour and Purgent. Physical exercise, exposure of sunlight and sexual Activities.

4. Varsha Rutu :- (June- July- August)

It is the first Rutu in Visargakala. In this Rutu in digestive power of the people is decreased. It is the vat dosh prakopakkal. The poor strength of digestive activity of doshastart vitating one another .For diet purpose the person should take old grains , soup of pulses , meat, wine prepared from grapes , Madhwika , Arishta (fermented decoction) and the oily food. The panchakola as well as honey should be used. According to the Acharya's ,Basti treatment is called as 'Ardhchikitsa (Half treatment)which is beneficial for the vat Dosha.sometimes, Virechana (Purgation therapy) treatment should also be done in this Rutu.

- Avoid:-Hardwork , River , sleep during day time i.eDiwaswap.

5. Sharad Rutu :- (September- October).

It is the second Rutu of visargakala. The Pitta dosha is increased in this Rutu . In this Rutu,when a person feel like hungry ,they should take food having taste like bitter, sweet and astringent . The food which is easily digestablesuch as sali (Rice), Mudga (green-gram), sugar ,amalki (amla) , honey and meat of desert animals should be taken.The specialty of this Rutu is ' Hamsodak.' It is nothing but the water get heated under the hot rays of sun during daytime and then it cool under the rays of moon at night time for many days continuously, which has been detoxicated. By the rise of the stars like 'Agastya' which is pure, uncontaminated and capable of mitigating of malas. It is nor Abhishyandi (Heavy) nor dry.Thepeople should apply the various lepa (paste) of Chandana, Ushira, karpura. They should wear the garland of pearl, shiney dress and enjoy under the moonlight. For eating purpose rice and wheat should be used. For the Panchakarma treatment in this Rutu the pittadosha is more. Hence, perticulary for pitta dosha 'Virechan (purgation therapy) is important and another Raktmokshana (Blood letting) treatment was also suggested by the Acharya sushruta .

- Avoid :- Exposure of (moist) snow, intake of Alkaline substances, curd , oil, vasa , exposure of sunlight , strong , liquors , diwaswap(sleep during day time).

6. Hemant Rutu :- (October – Nov – Dec .)

It is the last Rutu in visargakala and Rutucharya . According to modern concept Hemant Rutu means winter season . In this Rutu the human power is strong as well as the digestive power.People would like to eat the food having sweet, sour and salty taste.The daytime is short while the night time is more. The person feel more hunger in this Rutu. The person should apply the powder of various sented drugs like keshar , kasturi for the diet purpose , wine prepared with jiggery ,meat of fatty animals, wheats , blackgram, milk products or sugarcane . Harvested corn should be taken. For the dressing purpose people should wear the clothes made from cotton , leather , silk and wool. Do the sexual activities. The suggested panchakarma in this rutu are Abhyang means apply the oil on body & then massage it.Swedan (Sduation therapy) ,Murdhni tail (oil on head) should be done.

- Avoid:- Low diet , Sattu in water.

Study design

<u>Rutu</u>	<u>Dosha</u>	<u>Panchakarma</u>	<u>Aahar</u>
1.Shishir (Dec-Jan)	Kapha sanchay	Abhayang, Ushanswedan	Food like sweet, sour & salty. Ushnasadan , use hot Appliances at home, Wine, Meat of fatty Animals,milk, Blackgrams, Jiggery.
2.Vasant (feb- mar)	kaphaprakop	Vaman, Virechan KalBasti ,Nasya	Grain of Wheat Yava, honey, Asava, arishta, Mango Juice, grape juice, Musta water.
Grishma (Apr-May-June)	Vat sanchay kala	Abhayanga snehapana	Kundapushpa, desert animal Meat,cold Water, easy Digestable food.
Varsha (June-July)	Vat prakop Kala	Virechan, mardan, Abhyanga Basti, Vaman,	Old grains, soups of pulses, meat, wine, madhwik. Arishta, Grape wine.
Sharad (Sept.-Oct.)	Pitta prakop kala	Virechan (purgation therapy) Raktmokshan (blood letting)	Sweet & bitter food , Sali (rice), Blackgram, Sugar, Amalki (Amla),Patola, desert animal Meat & 'Hamsodak'.
Hemant (Nov-Dec.)	Pitta Prasham Kala	Abhyanga, Utsadan, Murdhni tail, Swedan	Sweet, sour, salty food. Meat of fatty animals. milk, wine, blackgram, Jaggery Heat from sun.

Discussion:-

According to study design in every single Rutu you should take the suggested diet and Panchakarma. In every singlerutu there is different dosh Sanchay, Prokop and Prasham kala.snehapana is explained in Grishmarutu. If you not care during snehapana, then various diseases are produce internally. So, people should drink hot water during snehapana.

During Swedan karma (Sudation Therapy), people should take light and liquid diet. Don't use wine. Avoid the cigarette smoking during this karma as well as the sexual activities. Direct contact with sun, cold, air and more exercise. Use hot water for drinking.

After Vaman karma (Emesis therapy) people should follow the Sansarjan karma. It means people should take khichdi prepared from Rice and Mung dal (green gram). Use hot water for drinking and avoid heavy food and take rest.

After virechan karma (purgation therapy) people should follow the sansarjankarma like Vaman (Emesis) karma .

During Basti kala, avoid cold water for drinking, use khichdi (green gram+ rice), milk, wheat, green vegetables .Avoid spicy ,oliy , heavy food and sleep during day time. e Diwaswap.

During Nasya karma, use hot water for drinking & for bath purpose. Avoid cold water and use light food.

Raktmokshana (Blood Letting) is the karma explained by the Acharya Sushruta during this karma avoids hot and cold food. Avoid more exercise .Thefood which increase the digestive power of man that should be taken.

During diet in Various Rutu's if not follow that , various diseases are born which are unable to control. Diet plays an important in day to day life style.

Conclusion:-

In Vasant Rutu, if we not follow the diet and the rules During the panchakarma i.e.vaman (Emesis), virechan (purgation), Basti (Enema), Nasya and Raktmokshanathen Various, diseases &Vyapad (Complications) are found.

- We have to follow the Sansarjan karma during this rutu's .If there is not proper liquification of kaphadosha then various kapha dosha diseases are born.
- In grishmarutusnehapana karma was explained. If we not follow that then snehvyapad are found and the avoid ness of diet aslo.
- In varsharutu, it was a vat prakopak kala .If we should not take proper diet then that vat dosha goes on increasing and give born to various diseases. If we not follow the does & don't during basti kala then there was bastivyad (Basti complications) in human body.
- During sharad kala, it was a pitta prakopakkala, in which Virechan (purgation therapy) suggested .if we not follow it properly then virechanvyapad are formed. Raktmotshana is also an important karma we have to follow the Rules.
- In HemantRutuMurdhni tail, Abhyanga is suggested.it was a kaphakala.so avoid such thing. Follow proper diet and panchakarma in every single Rutu properly.

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KUPILU – VARIOUS SHODHANA PROCEDURES WITH HPLC ANALYSIS

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ABSTRACT

Kupilu is a poisonous drug used as medicine in *Ayurvedic* formulations, after its *shodhana* procedure. Many procedures are explained in *Ayurvedic* classics for *Shodhana* of a toxic drug to reduce its toxic effects. This study consists of 8 different types of *shodhana* procedure. HPLC analysis was done for each sample to find out percentage decrease in Strychnine and Brucine. The study was conducted to understand the role of different *Shodhana* procedures in changing its chemical constituents. The media selected for *Shodhana* were cows milk, cows dung, cows urine, cows ghee and *kanji*. Total eight samples were taken for the study. All the eight *shodhana* procedures brought about significant changes in Strychnine and Brucine. The most remarkable change occurred in the cows milk *shodhita* sample followed by cows urine +cows milk +cows ghee sample showing remarkable changes.

KEYWORDS: Kupilu, Strychnine, Brucine, Shodhana.**INTRODUCTION**

Kupilu means *Strychnos nux-vomica*, is derived from a Greek word *Strychnos*, means poisonous and *nux-vomica* means having vomiting effects.^[1] *Kupilu* is a poisonous drug of vegetable origin, included in *upavisha varga*.^[2] Its *rasa* is *katu, tikta, kashaya; vipaka* is *katu; virya* is *ushna* and its having *laghu, ruksha* and *tikshna guna*.^[3] Literature claims that though it's a poisonous drug, it can be used for therapeutic purpose after its *shodhana* which gives not only *gunantar dhanam* but also *guna utkarsha*^[4] effect. Its *matra* for the therapeutic purpose is $\frac{1}{4}$ ratti-1 ratti^[5] (25- 125 mg). *Kupilu* is used in many *kalpas* like *laxmi vilas ras, agnitundi ras, navajeevan ras* etc.^[6] It's properties are *medohara, krumihara, swasahara, gulm hara, arshohara, mushika visha hara, vishtambi, rochana, agni krut, grahi, kushta hara, prameha jit, (kaiyyadev nighantu) mada krutaa, pittasra nashanam (bhavaprakash) kanthaamyahara (raj nighantu)*. Its antidote is *paribhadra (erithrina variegata) Katu, Tikta ras, Ushna virya, Laghu*.^[7] It is described in *surasadi gana* of *sushruta* as *vishmushtika* and *amradi phala varga* of *bhavaprakash*.

According to previous work done, about 18 alkaloids are identified from the seeds. The seed usually contain about 1.23 % Gram of Strychnine and about 1.55 % Gram of Brucine. Minor related alkaloids include α -colubrine, β -colubrine icajine, 3-methoxyicajine, strychnine-N-

oxide, isostrychnine-N-oxide, loganine, iso Brucine, methoxy strychnine, vomicine, novacaine, iso Brucine-N-oxide, 16-Hydroxy- α -colubrine, isostrychnine, protostrychnine, 2-Hydroxy-3-, N-oxystrychnine, 44-Brucine-N-oxide diaboline.^[8]

The re- investigation in seeds resulted in isolation of two colorless monoquaternary bisindole alkaloids named as 4-N-hydroxy methyl strychnidin-17-acetic acid and 10, 11-dimethoxy-4-N- hydroxy methyl strychnidin -17-acetic acid. Isolation of colored monoquaternary bisindole alkaloids named strychnochrysin from the roots was done in one study.^[9] Strychnine has action on anterior horn cells of spinal cord and its fatal dose is 15-50mg and fatal period is 1-2 hours.^[10] Research has been done on its analgesics, anti inflammatory activity^[11], anti oxidant activity^[12], anti convulsant activity^[13], anti tumor activity^[14], anti snake venom activity^[15], anti diarrheal activity^[16], hepatoprotective activity^[17], hepatoprotective and anticholestatic activities^[18], immunomodulatory effect^[19], anti amnesic activity.^[20]

Many *shodhana* procedures have been described for *Kupilu* in literature. *Panchagavya* has been mentioned for *shodhana* of *upavisha* by *Rasa Chandanshu*. *Kanji, errand tailam, adrak swaras* are also been used for *shodhana* purpose. Though *panchyagavya* has been mentioned, till date no research work has been published on the *shodhana* process of *kupilu* using cowdung. One

of the practitioners *Vaidya Degvekarji* used *kupilu* for treating *amavata* in dose of 1 *masha* three times a day for months together. He used cowdung for *kupilu shodhana* followed by their *bharjan* with *cows ghee* and here came the need of research in this spectrum.

In this study *kupilu shodhana* has been done using eight different methods. This study is also an attempt to find out which *shodhana* procedure is ideal in reducing the toxicity of seeds with the help of High Performance Layer Chromatography analysis. This study also gives information regarding *shodhana* of *kupilu* using cowdung for the first time.

AIMS AND OBJECTIVES

To perform *shodhana* of *kupilu* by eight different methods along with its High Performance Layer Chromatography analysis.

To find out best method of *Kupilu shodhana*.

To show the efficacy and safety of *kupilu shodhana* using cow dung.

MATERIALS AND METHODS

Eight different types of *Shodhana* processes done are as follows.

1. *Shodhana* in cows ghee: Seeds were fried in cows ghee on low flame till it gets *kapish* (slightly brownish) color. Then its outer covering was removed and seeds were immediately pulverized. According to *Ras Tarangini* it is the quick method of *shuddhi* (*twaritam shuddhi aayaati*).
2. *Shodhana* in cows milk: Seeds were boiled in cows milk for 3 hours by *dolayantra* method. Then its outer covering was removed and the seeds were dried in sunlight. When dried properly it was then pulverized. According to *Ras Tarangini* it is the method of attaining *uttam shuddhi*.
3. *Shodhana* in cows urine: Seeds were soaked in cows urine for 7 days. Fresh cows urine was used each day. After 7 days they were cleaned with warm water. The outer covering was removed; seeds were dried in sunlight followed by pulverization.
4. *Shodhana* in *kanji*: Seeds were soaked in *kanji* for 3 days. The outer covering was removed and seeds were properly dried in sunlight followed by pulverization. By this process *sarvartha shuddhi* is attained according to *Ras Tarangini*.

5. *Shodhana* in cow dung: Seeds were soaked in cow dung for 7 days. Fresh cow dung was taken each day. After 7 days seeds were cleaned with warm water. Then the outer covering was removed and the seeds were dried in sunlight followed by pulverization.^[21]
6. *Shodhana* in cow dung + cow ghee: Seeds were soaked in cow dung for 7 days. Fresh cow dung was taken each day. After 7 days seeds were cleaned with warm water. Then the outer covering was removed and then seeds were dried in sunlight properly followed by frying in cow ghee on low flame till it gets *kapish* (slightly brownish) color and then seeds were immediately pulverized.^[22]
7. *Shodhana* in cows urine + cows milk: Seeds were soaked in cows urine for 7 days, then seeds were cleaned with warm water, then boiled in cows milk for 3 hours by *dolayantra* method. Then the outer covering was removed and then seeds were dried in sunlight properly then pulverized. (*siddhayaoga sangraha*)
8. *Shodhana* in cows urine + cows milk + cows ghee: Seeds were soaked in cows urine for 7 days. Fresh cows urine was taken each day. Then seeds were cleaned with warm water followed by boiling in cows milk for 3 hours with *dolayantra* method. Then the outer covering of seeds was removed and then seeds were dried in sunlight properly; then fried in cows ghee on low flame till it gets *kapish* (slightly brownish) color and then seeds were immediately pulverized.^[23]

High performance layer chromatography analysis of strychnine and brucine.

High Performance Layer Chromatography analysis was done to find out Strychnine and Brucine quantity in the *nux vomica* seeds after various *shodhana* procedures. High Performance Layer Chromatography analysis (HPLC) analysis was done by using Zorbax C8, (250X4.6mm), 5 μ m column. Mixture of buffer (Dissolve 0.58gm of ammonium dihydrogen phosphate in 1000ml water and adjust the pH to 7.2 \pm 0.1 with dilute ammonium solution) and acetonitrile in the ratio of 50:50; v/v was used as mobile phase. 25.1 mg of Brucine and 25.6 mg of Strychnine dissolved in 25 ml of methanol, further diluted to get concentration 40 μ g/ml and used as standards.

Observations for Strychnine and Brucine.

Table: 1 Results of HPLC Analysis.

Sample	Shodhana method	Strychnine results out of 1.23%	% Decrease in Strychnine	Brucine results out of 1.55%	% Decrease in Brucine
A	cows milk	0.26%	79	0.39%	75
B	cows urine + cows milk + cows ghee	0.28%	77	0.31%	80
C	cows urine + cows milk	0.30%	76	0.34%	78
D	kanji	0.38%	69	0.49%	68
E	cows dung + cows ghee	0.42%	66	0.51%	67
F	cows ghee	0.46%	63	0.59%	62

G	cows dung	0.47%	62	0.57%	63
H	cows urine	0.52%	58	0.68%	56

When *shodhana* done in cows milk, the Strychnine percentage reduced to 0.26 % out of 1.23%. *Shodhana* done in cows urine + cows milk + cows ghee, the Strychnine percentage was 0.28%, when done in cows urine + cows milk it reduced to 0.30%, when done in *kanji* it reduced to 0.38%, when done in cows dung + cows ghee, it reduced to 0.42%, when done in only cows ghee it reduced to 0.46%, when done in cows dung it reduced to 0.47 %, when done in cows urine it reduced to 0.52%.

When *shodhana* done in cows urine + cows milk + cows ghee the Brucine percentage reduced to 0.31 %, when done in cows urine + cows milk, it reduced to 0.34%, when done in cows milk it reduced to 0.39%., when done in *kanji* it reduced to 0.49%, when done in cows dung + cows ghee, it reduced to 0.51%, when done in only cows ghee it reduced to 0.59%, when done in cows dung it reduced to 0.57 %, when done in cows urine it reduced to 0.68%.

ROLE OF MEDIAS FOR KUPILU SHODHANA

Panchagavya, erand taila, Adrak swaras are different Medias, necessary for *shodhana* which brings *gunantardhan* and *gunutkarsha*. *Shodhana* is the processing method by which the drugs get potentiated and are enhanced therapeutically because of the removal of impurities. It means that these medias brings about change in chemical constituent of drug. Studies have confirmed presence of alkaloids in cows milk used for *kupilu shodhana* signifying the importance of role of media in the same.^[24] Some studies also showed the decreased amount of Strychnine and Brucine with significant increase in iso Strychnine, iso Brucine and their N-Oxides using thermal treatment (Cia *et al.*,1990). Heat treatment or constant boiling for specific time in specific media modifies the chemical constituents.^[25]

From *ayurvedic* point of view, cows milk consists ten *gunas- madhura, seetha, mrudu, snigdha, bahala, slakshna, pichila, guru, manda* and *prasanna*.^[26] *Rasapanchaka* of cows milk is *madhura rasa; guru, snigdha, manda guna; madhura vipaka* and *sheeta veerya* and that of *kupilu* is *katu, tikta, kashaya rasa; laghu, rooksha, teekshna guna; katu vipaka* and *ushna veerya*. So, cows milk and *kupilu* have properties which are mostly opposite to each other. This may be the cause of reduction in the compounds after purification of *kupilu* with cows milk.

Cows urine is *katu lavan rasa, ruksha, tikshna, ushna, laghu, pittala*. Eventhough cows urine is having these properties it is *vishahara*. In Ayurveda, cow dung has been used for treating different diseases and its properties are approximately similar to cows urine.

From Ayurvedic perspective, Cows urine, cows dung, *Kanji* are *Vatakapha shamak*, which means it will predominantly act on *vatakaphaj bhava* of seeds, thereby doing its *shuddhi*. While cows milk, cows ghee are *vatapitta shamak*, which means it will act on *vatapitta bhava* of seeds, thereby doing its *shuddhi*. *Visha* predominantly have *pittaj bhava* compared to *kapha*, so may be *vata pitta shamak* medias have good results in reducing the toxicity. In process where seeds are first processed with cow dung and then with cows ghee is nothing but first to do *vatakapha shaman* and then to do *vatapitta shamana*, thereby trying to balance *tridosha* in seeds.

EFFECTS OF PROCESSES.

All these above mentioned processes involved, *swedan* (boiling), *nimmajan* (soaking), *bharjan* (frying) which resulted as below.

1. Change in the *Panchabhoutika* constitution of a substance.
2. Change in the chemical properties i.e. enhancing pharmacological actions of a substance.
3. Change in the state and nature of a substance.
4. Causes removal of impurities.
5. *Tridosha* is bounded within limit.
6. Enhanced medicinal properties and effects.
7. Mode of action becomes safe, smooth.

DISCUSSION

The Strychnine and Brucine are very potent poisons, so to reduce its poisonous effects and to enhance its therapeutic effect, *shodhana* has been mentioned in literature. In this paper eight different types of *shodhana* procedure has been carried out and its HPLC analysis has been done. In quantitative HPLC study, alkaloidal content were decreased in all the *Shodhita* samples when compared to the raw drug.

In this study the best results were found in sample A (cows milk) and B (cows urine+cows milk+cows ghee). In sample A (cows milk) 79% and 78% reduction in Strychnine and Brucine was obtained respectively. By this method *uttam shuddhi* is attained as per literature. Even in some studies cows milk *shodhita* sample proved to be the best in comparison with cows urine and cows urine + cows ghee (Mitra *et al.* 2012, Agrawal VK *et al.* 1977, Pradeep HR *et al.* 2000). The seeds processed in cows milk showed the lowest Strychnine content in the cotyledons, exhibited marked inhibition of PTZ induced convulsions and maximal potentiation of hypnosis, and were the safest (LD50), have also been reported by Katiyar *et al.* 2010. Mehta N *et al.* 2007, evaluated presence of alkaloid in the cows milk used for *kupilu shodhana* signifying the importance of role of media in the same. Agrawal VK 1977 evaluated that the cows milk reduces the toxicity as compared to cows ghee.

The results in sample B (cows urine+cows milk+cows ghee) obtained was 77% and 80% reduction in Strychnine and Brucine respectively. The study done by same process revealed 71.49% and 54.02% reduction in Strychnine and Brucine respectively (Mitra *et al.*, 2012). This is supposed to be the best and official method of *shodhana* which reduces maximum alkaloid from seeds (Ayurvedic pharmacopoeia of India). The Strychnine (68%) and Brucine(65%) content were decreased to about 1/3rd in this *shodhana* process when compared with raw drug. In the same study the LD50 value of cows urine+cows milk+cows ghee (2600 mg/kg) purified sample was found to be increased in comparison to the raw drug 260 mg/kg. Hence, showing the effectiveness in reducing the toxicity of the drug. In the Pharmacological study, It was observed that each step of *shodhana* process enhanced the analgesic potency of the nux-vomica seeds in this method.^[27]

The results in samples C (cows urine+cows milk) showed 76% and 78% reduction in Strychnine and Brucine respectively as against in Mitra *et al.*, 2012 study they found 91 % and 88% reduction respectively. The alkaline nature of cows urine (pH 8-10) initiated the extraction process which means amount of Strychnine and Brucine might have been removed by diffusion process into cows urine. And further boiling in cows milk the amount of Strychnine and Brucine might have been converted into isoStrychnine and iso Brucine and their N-oxidative derivatives which are having lesser toxicity. (Cai *et al.*, 1990)

In sample D(*Kanji*) the Strychnine and Brucine contents showed reduction 69% and 68% respectively while in Mitra S *et al.* 2011 study it was found to be reduced by 39.25% and 17.60% respectively. As *kanji* (pH 3.4) being acidic in nature may facilitate extraction of alkaloids like Strychnine and Brucine, along with other chemical components from nux vomica, thus stating that *kanji* is best extraction media compared to *adrak swarsa* by Mitra S *et al.* 2011. The seeds purified with *Kanji* revealed better anti-inflammatory activity. Hence, it can be suggested that for the management of acute inflammatory conditions *Kanji shodhita* samples can be preferred. In sample G (cows dung) the results obtained was 62% and 63% reduction in Strychnine and Brucine respectively, whereas in sample E (cows dung +cows ghee) it was 66% and 67% reduction respectively. The cows dung may be playing a role of extracting media whereby decreasing the alkaloids like Strychnine and Brucine, along with other chemical components from nux vomica and further processing with cows ghee might be producing their N-oxidative derivatives which are having lesser toxicity. This study deals for the first time with *shodhana* of *kupilu* using cows dung. It includes the results of not only cows dung (pH 6.62) *shodhita* sample but also cows dung +cows ghee *shodhita* sample. The results for sample F (cows ghee) was 63% and 62% reduction in Strychnine and Brucine respectively. Very few studies have been done with only cows ghee.

The results for sample H (cows urine) was 58% and 56% reduction in Strychnine and Brucine respectively. Mitra *et al.* 2012 evaluated 50% and 80% reduction, Agrawal VK *et al.* 1977 evaluated 69% and 52 % reduction while Pradeep HR *et al.* 2000 also showed significant reduction in Strychnine and Brucine respectively on *shodhana* done with cows urine.

INFERENCE

It can be inferred that, on an average all *shodhana* process brings about atleast more than 50% reduction in Strychnine and Brucine. Amongst which cows milk, cows urine+ cows milk+ cows ghee, and cows urine+cows milk reduces around 75% of Strychnine and Brucine. By means of this analysis, the vishahara property of pachagavya, is well understood.

As per mentioned in Ras Tarangini, the *shodhana* of *kupilu* in cows milk gives *uttam shuddhi* where in 79% and 75% of Strychnine and Brucine reduction has been found. *Kupilu* seeds are having vatapittolban properties. This *Uttam shuddhi* is obtained as, cows milk is vatapitta shamana thereby reducing predominantly the vatapittaj bhava from seeds.

In the *shastrokta vidhi* with cows urine+cows milk+cows ghee mentioned in Ayurvedic pharmacopoeia of India is also helpful in achieving *uttam shuddhi* in which 77 % and 80 % of Strychnine and Brucine reduction has been found. In this process vata kapha shaman and vata pitta shamana in the seeds is been achieved, thereby binding tridoshas in limits.

Kanji mentioned for *shodhana* for *sarvartha shuddhi* by *Ras Tarangini* is also well understood in which 69% and 68% of Strychnine and Brucine reduction has been found. In this process the vata kapha shaman in seeds is achieved predominantly.

Twari shuddhi word used for cows ghee *shodhita kupilu* is also well understood in which 63% and 62% of Strychnine and Brucine reduction has been found. In this *shuddhi* vatapitta shaman in the seeds is achieved predominantly.

CONCLUSION

1. All the medias used for *shodhana* purpose brings about more than 50% reduction in Strychnine and Brucine.
2. Cows ghee may be considered as the better media for *Shodhana* when compared to the others on the basis of easy applicability and time saving.
3. Cows milk and cows urine+ cows milk+ cows ghee brought about *uttam shuddhi* thereby reducing more than 75% of Strychnine and Brucine.
4. The *shodhana* of *kupilu* using cows dung also brings about around 60% *shuddhi*.
5. The *shodhana* of *kupilu* using cows dung followed by *bharjan* in cows ghee also brought around 65% *shuddhi*,

which was been used by traditional *vaidyas* as single drug therapy.

6. It can be used safely as single drug therapy after its *shodhana*.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Review Of PCOS In Relation To Jataharini

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Abstract:

Polycystic ovary syndrome (PCOS), characterized by chronic anovulation and hyper androgenism, is common in women of childbearing age. Most of these women also have insulin resistance and insulin sensitizing agents--metformin and the thiazolidinediones-- can restore ovulation and often fertility. PCOS patient needs to be treated for anovulation, infertility, depression and obesity. Herbal medicine leads great benefit in PCOS without negative side effect. In Ayurveda, Acharya Kashyapa has discussed about Jataharini which shows similar features like PCOS.

Introduction: Polycystic ovary syndrome (PCOS) is the most common cause of chronic anovulation associated with hyperandrogenism. PCOS affects 5%-10% of women of childbearing age and is responsible for more than half of infertility in women¹. Although the classic paper on the syndrome² described an association between amenorrhea/oligomenorrhoea, hirsutism, obesity and polycystic ovaries. Polycystic ovaries are not found in all women with PCOS, they are found in some women with normal menstrual periods and they can be the result of anovulation itself, regardless of the cause. In addition, PCOS can occur in lean women. Recent research has established that many patients also have insulin resistance with its compensatory hyperinsulinemia³. A prominent feature of PCOS is a history of menstrual irregularities starting at puberty or very soon thereafter. Although a long period of normal menstrual function can occur before the onset of PCOS, such a history should alert the physician to search for other causes. Hirsutism may develop before puberty, during adolescence, or in the third decade of life (and in some populations, such as Asians, may not occur at all). Virilization characterized by clitoromegaly, deepening of the voice, male-pattern baldness, and muscle hypertrophy, is very unusual but may occur in hyperthecosis, a severe form of PCOS. If virilization is noted, another cause should be sought before describing it as the hyperthecosis variant of PCOS. At present infrequent menstruation is treated by hormonal therapy. This therapy may lead to obesity⁴. Herbal medicine can be of great benefit in PCOD without the negative side effect of conventional drugs. Obese woman suffers mental stress due to obesity & if she suffers from PCOD it leads to infertility. Therefore correction of menstrual disorder is important. Without physical exercise and diet therapy the treatment of obesity induced oligomenorrhoea is incomplete^{5,6}. *Nidanparivarjan* i.e. treating obesity will correct PCOD.

Ayurveda describes different gynaecological disorders under the heading of *Yonivayapad*, *Aratavavyapad*, *Beejadosh* in detail which explains the probable effect of the female's optimal health with reproduction. *Kashyapa Samhita* well accepted classics for *Bala-roga* discusses about *Jataharinis* which influences the females during various stages of her life causing many abnormalities related to her reproductive functions. *Charaka* described about *Vandhya* as

complication of *yonivyapad*. In *Sutrasthana* also he explained about *Atishthula* and *Atiloma* among the eight categories of unfit persons. Sushruta also described about *Aratava-ashyaya* and *Vandhyayoni*. Vagbhatta (A.Sangraha, A.Hrudaya) also explained about *Vandhya* and *Rajakshaya*. *Harita* told about 6 types of *Vandhya* among them *Anapatya* is to be disease in which there will be absence of conception. Menstruation is the sign of womanhood in Ayurveda. The menstrual blood is having synonyms like *Artava*, *Raja*, *Shonita*, *Puspa*, *Rakta*. *Kashyapa* has explained *Jataharini* which produces abnormalities by afflicting the women during menstruation, pregnancy etc. and destructs *Aratava*, *Puspa* and *Garbha*. In classics there is no such direct reference of PCOS but *Puspaghni Jataharini* is one among those *Jataharinis* having *Lakshans* similar to the clinical features of PCOS. PCOD though a syndrome cannot be correlated to a particular disease.

Origins of PCOS: PCOS is probably more than one disorder. The causes are not known with any certainty. Normal ovarian cycles are characterized by fluctuating levels of hormones, both gonadotropins and steroids that regulate ovulation and menses. In the anovulatory state of PCOS, hormonal concentrations do not fluctuate, and indeed high steady state levels are maintained. Luteinizing hormone (LH) levels are often raised, whereas follicle-stimulating hormone (FSH) levels are usually low-normal or even low. In women with chronic anovulation, ovarian production of estrogen and androgens are stimulated by LH and thus are also increased. Ovarian production of androstenedione is particularly elevated and converted to testosterone in peripheral and target tissues, raising testosterone concentrations beyond those produced by the ovary. In women, about 70% of circulating testosterone is bound to sex hormone-binding globulin (SHBG), which is produced in the liver; 25% is bound to albumin; and 5% is free. This contrasts with men who have much higher testosterone and lower SHBG levels. In men, about 44% of testosterone is bound to SHBG, 54% is bound to albumin, and 2% is free. Albumin-bound testosterone can dissociate within the capillary bed, however, is available for tissue uptake so that the biologically active fraction in women is about 30% of total testosterone (equal to the sum of the free and albumin-bound fraction). Although the mechanism is unclear, adrenal production of androgens in women with PCOS is also elevated. Thus, raised dehydroepiandrosterone sulfate (DHEAS) concentration, which is seen in about half of women with PCOS, is almost all of adrenal origin. Liver production of SHBG is decreased by testosterone and by hyperinsulinemia, thus allowing more free testosterone to exert its effects. Hyperinsulinemia in conjunction with abnormal LH secretion stimulates the ovary to produce more androgens. The androgens in turn or together with increased insulin concentrations, reduce hepatic production of SHBG, leading to more free testosterone at the tissue level. This hyperandrogenism, along with disordered LH/FSH secretion, results in anovulation. Although many more details need to be worked out, such as the mechanisms behind the abnormal gonadotropin secretion and the insulin resistance, this is how hyperandrogenism and anovulation are thought to produce PCOS.

PCOS according to Kashyapa: The available portion of *Kashyapa Samhita* presents a unique chapter in its *Kalpa Sthan* named *Revati Kalpadhyaya*. In this chapter, thirty different types of *Revatis (Jataharini)* producing various abnormalities by affecting the women during her various stages i.e.,

menstruation, pregnancy etc. are described. These are considered as causative factors. *Puspaghni, Andagni, Drudara, Kalaratri Jataharni* are curable. Among them *Puspaghni Jataharini* having the *Lakshans* similar to the Clinical picture of PCOD.

Jatharani Nirukti:-

Jataharini means = Jata + Harini

Jata = the word meaning of *Jata* is born.

Harini = Means destructing or killing.

Jataharini causes disappearance of *Puspa* (menstruation) destructs *Vapu, Garbha, Jata/ Jayamana* creatures specially *Asuras, Adharmika* person or their children.

Puspaghni Jataharini

Rupa:- वृथापुष्पंतुयानारीयथाकालंप्रपश्यति स्थूललोमशगण्डापुष्पघ्नीसाअपिरेवति || (का.सं.क.६/३३ ३४)

Vrutha Pushpam - Anovulation, fruitless/ without conception.

Yathakalam Prapashyati - Menstruating regularly.

Sthula – Obesity.

Lomsha ganda – Hairy chin/ Hirsutism.

Among the *Jataharini, Puspaghni* is one of them which causes trouble the women. *Puspaghni* presents with triad of typical features that includes destruction of *Puspa* with regular menstruation, appearance of facial hair and obesity.

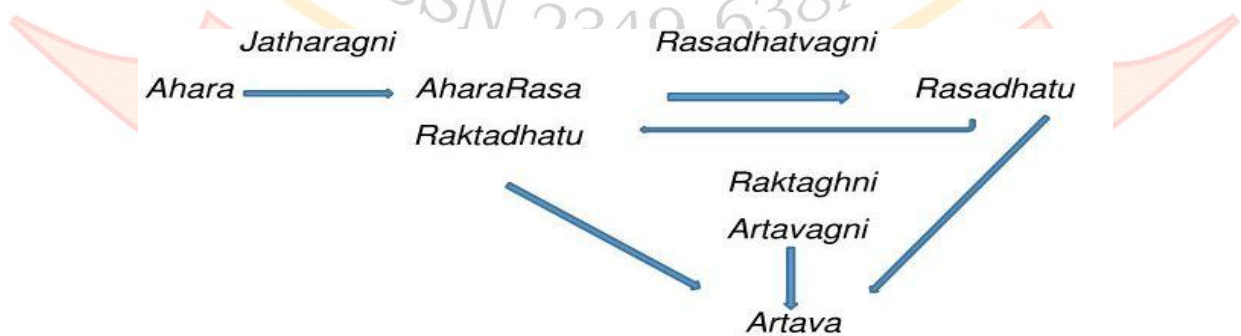
Physiological activity of Artava

Ritu = Particular period or specific time.

Bhavam = To occur.

Thus *Artava* is substance of body which flows out in a specific period of time.

Utpatti of Artava¹² When we go through classical text book of Ayurveda then it reveals that reproductive age of female life is characterized by physiological activity of *artava*. Acc. to Arundatta tika (A.H Sa 1/1) *Ritu*. The woman is able to perform her main function of reproduction only after the regular menstrual periods containing *Antah-puspha* (ovum).



So *Artava* is main sign of womanhood and physiological function of female depends upon *Artava*. The *Artava* has got two aspects depending upon its function and named as

- 1) *Antahpushpa* 2) *Bahirpushpa*.

Bahirpushpa is that part of Artava which clear the uterus and vagina and prepares the reproductive organ for fertilization.

Antahpushpa is that part of Artava which directly takes part in fertilization. *Antah puspha* is also called ovum. *Antah puspha* is attributed to *Phalayoni* and all the female phenotypic characters that become apparent during reproductive age of female is depending upon this *Antah puspha*. So Ayurvedic literatures reveals that menstruation, ovulation and female phenotypic characters are because of *artava* and these physiological function distributed in *Puspaghni* like :

- i) Female have regular menstruation without *Antah pushpa*.
- ii) Altered female phenotypic characters.
- iii) Male characters like appearance of beard and moustache may occur.

So this illness *puspaghni* is related to *Arthavaha Srotas* in general and particularly to *phala yoni*. *Phala yoni* can be correlated with ovary. PCOS is a syndrome and related to ovary.

Anatomy of ovary :- Acc to ayurveda the synonym of ovary is

i) *Phala*

ii) *Antarphala*

iii) *Andah*.

There is no special description of ovary in old texts. But Sushruta had described and called as *Antarphala*. He described while talking about *peshis*, that as there are *peshis* surrounding testis in a male just in the same way, there are *peshi* surrounding ovary which is called as "*Antarphala*". Sushruta had described those ovaries as *Marmas* i.e vital organs. He had also described about *Udvruhaphala* and *Apavritta phala* these two conditions which resemble the prolapsed ovary and the undescended or twisted ovary. In the PCOD, enlargement of ovary is the structural change observed. In the classics as such references are not there *Nidana* → Vitiating of *Tridosha* → Vitiating of *Srotas* → Localized in the tissue → *Granthi*. In Ayurvedic classics specific description of *Granthi* of reproductive system is not available. But Acharya Charaka has included this in the chapter dealing with *Sotha*. Due to similarity in basic clinical feature i.e swelling or protuberance. In the treatment he has indicated enucleation of *Granthi* along with its *Kosa* or capsule on this basis *Granthi* can be equated with cyst. Acc to Sushruta aggravated *Vatadi Doshas* vitiating the *Mamsa*, *Rakta*, *Meda* of the *Beeja kosa* produce rounded protuberant knotty swelling called *Granthi*. Vagbhatta explained vitiating *Doshas* in which *Kapha* is predominant get localized in the tissue produced a round elevated growth, compact in nature called *Granthi*. On the basis of this *Granthi* can be correlated with cyst. When *Sleshmaj prakruti stree* consumes the *Kapha prakopak Ahara* then it vitiates the *Doshas* mainly *Kapha*. *Kapha* vitiating will cause the *Meda Vridhhi* and it will lead to abnormality in *Rituchakra* but enlargement of structure or mass lesions are referred by the name *Granthi*. The mass lesions containing fluid is referred as *Granthi*. The *Granthi* develops due to tortuousness or abnormal vitiating of *Doshas* and *Dushyas*, followed by their accumulation and one place producing rounded, protuberant and glandular swelling. (prolonged *Ritukala*). Further it creates the vitiating of *Tridosha* mainly *Vata vikruti* both *Vata* and *Kapha* causes *Avarana* to *Artavaha srotas* and it will lead to *Artavavaha srotas Dushti* in terms of *Anartava (Alpapushpa Nastapuspa)* along with this *Meda vridhhi* leads to *Alpa prana, Alpa beeja, alpa maithuna*.

Chosing Effective Treatment: Treatment of PCOS can affect four outcomes: anovulation; infertility; other manifestations of androgen excess such as hirsutism; and long-term sequelae such

as cardiovascular disease (CVD) and endometrial carcinoma. Since most women with PCOS are insulin resistant (obese patients more than lean ones). Weight loss of at least 5% in obese patients can reduce both insulin resistance and androgen excess, and result in ovulation and subsequent pregnancy.

Conclusion: PCOS is common endocrinopathy in young women that presents physicians with many challenges. Patients need to be treated for anovulation, and many require therapy for infertility, hirsutism, depression, and obesity. On a longer-term basis, measures to prevent uterine carcinoma, CVD, and diabetes are necessary. Fortunately, available lifestyle interventions and pharmacotherapies can accomplish most of these outcomes. Appropriate management relies on knowledgeable providers and cooperative patients. Sushrut mentioned *Agneyadravyas* having properties like *Deepana, Pachana, Chedana, Lekhana, Medohara* pacifies *Kapha & Vata dosha* can be used to treat PCOD₁

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MORPHOMETRIC ANALYSIS OF ORBIT IN INDIAN SKULLS AND COMPARISON WITH INTERNATIONAL STUDIES

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ABSTRACT

Introduction: Morphometric analysis of skull is of great significance to anatomists, radiologists and medicolegal experts. Skull resists decomposition and is the preferred bone for identification of sex of an individual. Among several parameters, orbital measurements also show sexual dimorphism. Assessment of orbital dimensions is also important for surgical management of pathologies around orbit. Previous studies present large variations in orbital morphometry due to genetic and environmental factors, racial and ethnic differences, different measurement methods and sample size. Thus to obtain population specific standards, to assess the bilateral asymmetry and gender differences in orbital parameters, the present study was conducted.

Materials and Methods: The study was performed on 98 adult Indian skulls (196 orbits) consisting of 60 male and 38 female skulls of known age and sex. Parameters measured were Orbital height (OH), Orbital breadth (OB) and Orbital Index (OI) which were expressed in descriptive statistics i.e. mean, range and standard deviation.

Results: In the present study, in males, the mean OH for the right and left sides were 32.64±2.07 and 32.39±2.18mm respectively while their OB were 37.52±1.35 and 37.08±1.96mm respectively and the mean OI was 87.47. In Females, the mean OH for the right and left sides were 32.55±1.91 and 32.31±1.55mm respectively while their OB were 37.25±1.64 and 36.67±1.56mm respectively and the mean OI was 87.88.

Conclusion: The mean OI in the present study was 87.47 placing the Indian population in Mesoseme group. Difference in orbital breadth on two sides was statistically significant emphasizing bilateral asymmetry. However the gender differences in OH, OB and OI were statistically insignificant.

KEY WORDS: Orbital Height, Orbital Breadth, Orbital index; Morphometry; Sexual dimorphism; Skull.

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INTRODUCTION

Knowledge of morphometry of the skull is indispensable to anatomists, forensic experts, anthropologists and surgeons. Skull remains the most preferred bone for identification and sexual dimorphism because it is least perishable and

resists fire, explosions and mutilations. Sex of an individual can be identified accurately in 90% of cases using skull alone and in 98% cases using pelvis and skull together [1]. Among other parts, orbits also show sexual dimorphism, male orbits are square, relatively smaller while orbit

of female skulls are usually rounder and relatively larger [2-4].

Orbit is the pyramid shaped bony cavity situated on either side of the root of the nose. Bones contributing to the framework of each orbit are the maxilla, zygomatic, frontal, ethmoid, lacrimal, sphenoid, and palatine bones. Each orbit contains eyeball and related muscles, vessels, nerves and lacrimal apparatus [5].

The orbit have important clinical implications as they can be involved in a number of congenital, traumatic, neoplastic, vascular and endocrine disorders [6]. Morphological knowledge of the orbit is also essential in several surgical procedures (ophthalmological, maxillary surgeries and reconstructive cosmetic surgeries of face) and in assessing syndrome such as Down syndrome [7-9].

The orbital characters including OI vary with age, sex, race, regions and ethnic groups and periods in evolution [7, 10-12]. It is necessary to determine their reference value in order to help anthropologists, forensic experts and anatomists identify morphological variants of this structure and surgeons and physicians for surgical and cosmetic procedures. Hence the present study was conducted to find out the baseline measurements of both orbits in Indian subjects. The morphometric differences between two sexes were observed for and orbital symmetry for each individual was assessed.

MATERIALS AND METHODS

The study was conducted on 98 adult skulls (196 orbits) of known sex available in the Anatomy department of Govt. medical college, Aurangabad, of which 60 were male and 38 were female. Measurements were taken after putting the skull in Frankfurt's horizontal plane. The measurements of right and left side were recorded separately for male and female skulls. Instruments used for the measurement were Vernier caliper, scale and marker. Measurements were taken twice at different sittings and their average was taken.

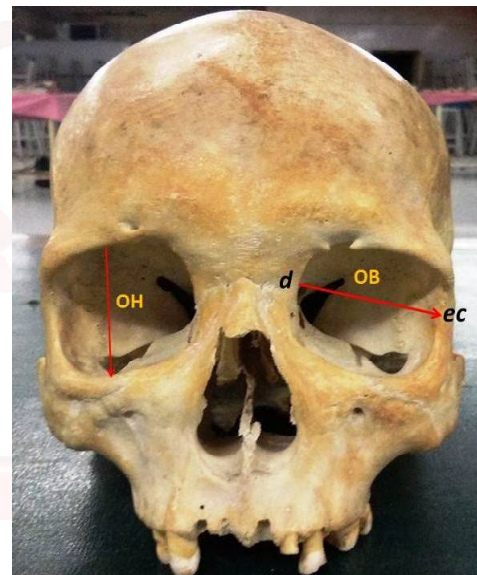
Only dry, ossified, intact adult skulls free of any deformity or artifacts were included in the study. Following orbital parameters were measured in all the skulls on both the sides (Fig.1):

1. Orbital Breadth (OB): from the **dacryon (d)** to the **ectoconchionec (ec)**. [**dacryon d**- The point of frontal, lacrimal, and maxillary intersection on the medial border of the orbit; **ectoconchionec**- Intersection of the lateral border of the orbit with a line bisecting the orbit along its long axis] [13].

2. Orbital Height (OH): the maximum vertical distance between the superior and inferior orbital margins

3. Orbital Index (OI): OI was calculated by dividing the orbital height with the orbital breadth and multiplying the result by 100 [10].

Fig. 1: Photograph showing the measurement of orbital breadth (OB) and orbital height (OH) (**d**-dacryon; **ec**-ectoconchionec)



All the measurements were recorded in millimeters and were tabulated. Descriptive statistics i.e. mean, SD and Range were calculated. The results were analyzed using Statistical Package for Social Sciences (SPSS) version 18. The means of right and left sides and between the male and female samples were compared for significance using the Student t-test. Confidence interval of 95% was assumed and the differences were considered significant at ≤ 0.05 .

RESULTS

In male skulls, the mean OH for the right and left sides were 32.64 ± 2.07 and 32.39 ± 2.18 mm respectively while their OB was 37.52 ± 1.95 and 37.08 ± 1.96 mm and OI was 87.28 ± 7.94 and 87.66 ± 8.61 respectively (Table 1).

Table 1: Orbital measurements (in mm) in adult Male skulls.

Parameters	Mean	SD	P value
ROH	32.64	2.07	0.0773
LOH	32.39	2.18	
Mean OH	32.52	2.08	--
ROB	37.52	1.95	0.0021
LOB	37.08	1.96	(<0.05, Statistically Significant)
Mean OB	37.3	1.9	--
ROI	87.28	7.94	0.4782
LOI	87.66	8.61	
Mean OI	87.47	8.09	--

R- Right, L-Left, OH-Orbital Height, OB-Orbital Breadth, OI-Orbital Index, SD- Standard Deviation

In female skulls, the meanOHfor the right and left sides were 32.55±1.91 and 32.31±1.55mm respectively while their OB was 37.25±1.64 and 36.67±1.56mm and OI was 87.52±6.15 and 88.24±5.22 respectively (Table 2).

Table 2: Orbital measurements (in mm) in adult Female skulls.

Parameters	Mean	SD	P value
ROH	32.55	1.91	0.1457
LOH	32.31	1.55	
Mean OH	32.43	1.69	--
ROB	37.25	1.64	0.0001
LOB	36.67	1.56	(<0.05, Statistically Significant)
Mean OB	36.96	1.56	--
ROI	87.52	6.15	0.1557
LOI	88.24	5.22	
Mean OI	87.88	5.55	--

R- Right, L-Left, OH-Orbital Height, OB-Orbital Breadth, OI-Orbital Index, SD- Standard Deviation

While comparing the parameters of right and left side for symmetry, it was observed that although ROH>LOH, ROB>LOB and LOI>ROI in both sexes, the difference was statistically significant only between ROB and LOB (P<0.05), thus emphasizing bilateral asymmetry in orbital breadth.

It was observed while comparing the parameters between male and female skulls that the OH and OB was more and OI was less in males as compared to females but the difference were statistically insignificant (Table 3). The mean OI in male skulls was 87.47 and female skull was

87.88 placing the study population in Mesosome category.

Table 3: Comparison of Orbital measurements in Male and Female skulls.

Parameters	Male		Female		P value
	Mean	SD	Mean	SD	
ROH	32.64	2.07	32.55	1.91	0.8442
LOH	32.39	2.18	32.31	1.55	0.8639
Mean OH	32.52	2.08	32.43	1.69	0.85
ROB	37.52	1.95	37.25	1.64	0.5436
LOB	37.08	1.96	36.67	1.56	0.3465
Mean OB	37.3	1.9	36.96	1.56	0.4273
ROI	87.28	7.94	87.52	6.15	0.8899
LOI	87.66	8.61	88.24	5.22	0.7446
Mean OI	87.47	8.09	87.88	5.55	0.8111

R- Right, L-Left, OH-Orbital Height, OB-Orbital Breadth, OI-Orbital Index, SD- Standard Deviation

DISCUSSION

Orbital Measurements: Metric parameters of skull including orbital height, breadth and index are useful for identification and sex determination. Morphometric parameters of orbit are also important in ophthalmology, oral maxillofacial surgery and neurosurgery. The measurements of orbit and the orbital index are known to vary with age, sex, race and regions in the same race [7, 10-12]. The knowledge of these measurements is must for their successful application.

In the present study, the mean OH in male skulls on the right and left sides were 32.64±2.07 and 32.39±2.18mm respectively (mean OH=32.52 mm±2.08), while their OB was 37.52±1.95 and 37.08±1.96mm (mean OB=37.3±1.90mm), and OI was 87.28±7.94 and 87.66±8.61 respectively (mean OI=87.47±8.09) (Table 1).

In female skulls, the mean OH for the right and left sides were 32.55±1.91 and 32.31±1.55mm respectively (mean OH=32.43mm±1.69), while their OB was 37.25±1.64 and 36.67±1.56mm (mean OB=36.6±1.56mm), and OI was 87.52±6.15 and 88.24±5.22 respectively (mean OI=87.88±5.55) (Table 2). These parameters are similar to those observed by Biswas et al. on Indian (Bengali) skulls, Weaver et al. on Caucasians and Ji et al. on Chinese (Table 4, 5) [4, 12, 14]. Higher OH, OB and lower OI was observed by Mekala et al. on south Indian skulls could be due to environmental and genetic factors [15].

Variations in the observed parameters between different studies (Table 4, 5) may be due to racial differences, variations in the sample size, environmental and genetic factors or different measurement methods.

Orbital Asymmetry (Table. 4): While comparing the parameters of right and left side for symmetry, it was observed in this study that although ROH>LOH and ROB>LOB in both males and females, the difference was statistically significant only between ROB and LOB (P<0.05), thus emphasizing bilateral asymmetry in orbital breadth (Table.4).This is partly in agreement with the study by Fetouh and Mandour who observed both OH and OB were greater in the

right side than in the left in both males and females with significant differences [6]. The difference between the right and left may be attributed to the differential growth of the two sides of the brain and in this case the right side has shown dominance [16]. A few studies, however, observed that the bilateral difference in height and width of the orbits was not significant statistically [3,15,17].

The slight difference observed between the right and left side, specifically OB in this study, could be attributed to the differential growth of the brain on two sides.This difference has to be kept in mind while surgical correction of the bony orbits.

Table 4: Comparison of means of Right and Left Orbital parameters (in mm) (Male & Female together).

Name and year of the study	No. of crania studied	Study population	Right Orbit			Left Orbit			MEAN OI	Type	Significant Side Differences in
			ROH	ROB	ROI	LOH	LOB	LOI			
Biswas et al (2015) [4]	n=53	Indian (Bengali)	32.1	36.6	86.59	32.95	36.55	90.05	88.93	Mesoseme	--
Kaur et al (2012) [11]	n=30	Indian (North)	31.9	39.7	80.35	32.2	38.8	82.99	81.65	Microseme	--
Kumar and Nagar (2014) [3]	n=68	Indian (North)	33.47	42.06	79.65	33.65	41.87	80.49	79.97	Microseme	--
Mekala et al (2015) [15]	n=200	Indian (South)	35.5	41.7	85.22	35.3	41.8	84.82	85.8	Mesoseme	--
Present Study (2016)	n=98	Indian	32.64	37.52	87.28	32.39	37.08	87.66	87.47	Mesoseme	OB
Jeremiah et al (2013) [10]	n=150	Kenyan	--	--	--	--	--	--	83.03	Microseme	--
Marinescu et al. (2014) [18]	n=200	Romanian	--	--	--	--	--	--	84.23	Mesoseme	--
Fetouh&Mandour (2014) [6]	n=52	Egyptian	35.68	43.19	82.62	34.99	42.3	82.72	82.67	Microseme	OH OB
Ukoha et al. (2011) [17]	n=70	Nigerian	31.9	36.03	88.54	31.45	34.98	89.91	89.21	Megaseme	--
Pires et al (2016) [7]	n=77	Brazilian	32.89	37.15	88.53	--	--	--	88.72	Mesoseme	--
Elzaki et al. (2015) [20]	110 CT Scans	Sudanese	37.9	34.1	111.14	37.86	34.06	111.16	111.15	Megaseme	--
Ji et al. (2015) [14]	64 CT	Chinese	33.45	39.1	85.55	33.28	38.94	85.46	85.32	Mesoseme	--
Igbigbi&Ebite (2010) [22]	136 X-rays	Malawian	--	--	--	--	--	--	95.19	Megaseme	--
Sangvichien et al (2007) [19]	n=101	Thailand	--	--	--	--	--	--	84.83	Mesoseme	--
Weaver et al (2010) [12]	39 CT	Caucasian	--	--	--	32	36.9	86.72	86.72	Mesoseme	--

R- Right, L-Left, OH-Orbital Height, OB-Orbital Breadth, OI-Orbital Index, SD- Standard Deviation

Orbital Index and racial differences: Patnaik et al stated that in each orbital cavity, the width is usually greater than the height, the relation between the two is given by the orbital index, which varies in different races (Orbital Index= Orbital Height/Orbital Breadth). Using the OI, Orbits are classified into three types: **Megaseme** (OI >89) for the Orientals (except the Eskimos) where the orbital opening is round, **Mesoseme** (89 > OI > 83) for the Caucasians and **Microseme** (OI ≤ 83) for the Africans where the orbital opening is rectangular [8, 21].

Orbital index is essential for fossil records interpretation, classification of skull and understanding the trends in evolutionary and

ethnic differences.Knowledge of orbital indices is essential in the evaluation and diagnosis of craniofacial syndromes and post traumatic deformities [15].

The orbital index gives an idea about the shape of the orbit.In the present study, the mean OI was 87.47 placing the study population in **Mesoseme** category [Table 4]. This is in accordance with study of Mekala et al on south Indian skulls with mean OI of 85.80 placing them under Mesoseme category [15]. The results partly corroborates with Biswas et al who observed the orbital indices for the male skulls fall in the Mesoseme category (86.89) while that for the female skulls fall in the Megaseme category

(90.31) in Bengali Indian skulls [4]. The orbital index in the present study is similar to Caucasians in which the orbits are of Mesoseme type [21].

The result is contrary to previous study by Kumar and Nagar which observed OI of 79.97 and by Kaur et al. which observed OI of 81.65 classifying north Indian skulls as microseme [3, 11]. The OI of the present study differ from Egyptian (mean OI of 82.27 in males and 83.5 in females) and Kenyan (mean OI of 82.57 in males and 83.48 in females) skulls which grouped them in Microseme category [6, 10].

Studies in Nigerians (mean OI of 89.21) and Malawians (mean OI of 94.35 in males and of 96.03 in females) grouped them in Megaseme category [17, 22].

Asymmetry in OI (Table 4): In the present study, the mean LOI was more than ROI emphasizing asymmetry between right and left orbits but the difference was not significant. Similar observations [Table.4] were made on Indian, Egyptian,

Nigerian and Sudanese orbits [4, 3, 6, 11, 17, 20]. Ji et al in Chinese and Mekala et al. in south Indian skulls however, observed ROI to be more than LOI [15, 14].

Gender Differences in OI (Table 5): In the present study, the mean OI in female skull was 87.88 which was more than that in male skulls (87.47). The difference, however, is statistically not significant to warrant the use of the OI in sexual dimorphism of skulls in Indian population. The higher OI found among orbits of female subjects was similar to what has been reported in previous studies [Table.5] conducted among different populations [6, 10, 15, 22]. However, Biswas et al and Sangvichien et al observed significantly higher OI in female than male skulls [4, 19].

Comparison with different studies shows that there is a large variation in orbital morphometry due to genetic and environmental factors, racial and ethnic differences, different measurement method and sample size (Table 4, 5).

Table 5: Comparison of means of Orbital parameters between Males and Females (in mm) (Right & Left together).

Name and year of the study	No. of crania studied	Study population	Males			Females			Significant Gender Difference in
			Mean OH	Mean OB	Mean OI	Mean OH	Mean OB	Mean OI	
Biswas et al (2015) [4]	n=53	Indian (Bengali)	32.15	37.15	86.9	32.75	36.35	90.31	Left OI
Mekala et al (2015) [15]	n=200	Indian (South)	36.2	42.9	84.62	34.5	40.5	85.46	OB OH
Present Study (2016)	n=98	Indian	32.52	37.3	87.47	32.43	36.96	87.88	---
Jeremiah et al (2013) [10]	n=150	Kenyan	--	--	82.57	--	--	83.48	---
Marinescu et al. (2014) [18]	n=200	Romanian	33.1	39.9	82.96	32.6	38.1	85.56	OB
Fetouh&Mandour (2014) [6]	n=52	Egyptian	35.57	43.25	82.27	35.12	42.37	83.5	OB
Ukoha et al. (2011) [17]	n=70	Nigerian	33.35	36.03	92.56	33.22	34.98	94.97	---
Elzaki et al. (2015) [20]	110 CT	Sudanese	38.73	34.92	110.9	37.51	33.71	111.2	OB OH
Ji et al. (2015) [14]	64 CT	Chinese	33.35	40.02	83.33	33.22	38	87.42	OB
Igbigbi&Ebite (2010) [22]	136 X-rays	Malawian	42.07	44.57	94.35	40.26	42.15	96.03	---
Sangvichien et al (2007) [19]	n=101	Thailand	33.44	40.1	83.5	32.89	38.09	86.61	OB OI
Weaver et al (2010) [12]	39 CT	Caucasian	32.44	37.42	86.69	31.75	36.6	86.75	---

R- Right, L-Left, OH-Orbital Height, OB-Orbital Breadth, OI-Orbital Index, SD- Standard Deviation

CONCLUSION

In the present study the mean OI was 87.47 placing the Indian study population in Mesoseme group. OH and OB was more and OI was less on right side than the left side. However, only the difference in Orbital breadth was statistically significant emphasizing bilateral asymmetry in orbital breadth. OH and OB was more and OI was less in male skulls than the

female skulls. However the differences were statistically insignificant excluding their role in the sexual dimorphism of the skull.

The present study provides baseline measurements of both the orbits in Indian population thus adding population specific standards in craniometric database. A comparison with different studies and population in discussed in detail. This complete data will serve as a guide

to anatomists, ophthalmologists, oral and maxillofacial surgeons and forensic experts. The measurements can also be used for determining race, ethnicity, gender etc.

Conflicts of Interests: None

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Efficacy Of Trisughandi Churna In The Management Of Kaphaj Chhardi In Children.

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Abstract:

In the old era kaumarbhritya had a greater responsibility of both faculty i.e. obstetrics and pediatrics. Childhood is the formative period in life, subjected to various intrinsic and extrinsic influences affecting their survival health and disease.

According to ayurveda depending upon srotasa, chhardiisvyadhi of Annavaahasrotasa. There are 5 types of chhardi i.e. vataj, pittaj, kaphaj, sannipataj and bhimbhatsadarshanchhardi. Yet in all type of branches, kaumarbhritya is one of the most important branch of medicine. Chhardi is described by both Ayurvedic and modern text book as chhardi and vomiting.

Keywords: Chhardi, Types of Chhardi, Annavaahasrotasa.

Introduction:

Ayurveda is divided into eight major branches and it is describe in the quotes of Acharya vagbhat Here it can be known that Balchikitsa described by Acharya Vagbhat was earlier known as 'kaumarbhritya'.

According to modern science in older children, viral or drug induced gastritis is the leading cause of vomiting.

Forceful expulsion of gastric contents nausea or retching is the protective reflex control by central emesis centre. Emesis centre are located in medulla and stimulated either directly by neurogenic afferent from GIT or indirectly by chemical stimuli from CTZ. Afferent response involves sudden violent descent of diaphragm and contraction of abdominal muscles increase intra-abdominal pressure coupled relaxation of cardiac sphincter to expel gastric contents called Vomiting.

According To Ayurveda:

Increased Dosha are expelled out in upward direction through mouth called Chhardi. In this disease 'Udanavata' gets vitiated and brings all contents of the stomach upwards and finally everything is vomited out from the mouth.

Sushrut described chhardi as a Swatantravyadhi having its own etiology, pathology and management.

Improper diet and lifestyle these two are main cause of disease in ayurveda. In children, irregular and bad habits of diet such as forceful feeding , eating fast foods, contaminated food , eating hurriedly , over eating etc. creating problems like agnimandya, ajirna and chhardi.

In the present study, the trial drug Trisugandhadichurna which is prepared from three drug such as Twaka, Ella, Patraka and madhu.

Trisugandhadichurna has been described as being effective against kaphadosha. Trisugandhadi drugs are available in all parts of world. It is effective in very small quantity.

As per quality of Trisugandhadichurna like – Rasa, veerya, vipak, guna, dosha and karma of Trisugandhadi drugs. It was decided that the commonly and easily available drugs (Trisugandhi) should be tried in patients and kaphajchhardi as a disease of an acute onset. Therefore present work is study on the efficacy of Trisugandhadichurna in management of kaphajchhardi in children.

Aim And Objectives: The present study was carried out with following aim and objectives

Aim: Study on the efficacy of Trisugandhadichurna in the management of kaphajchhardi in children.

Objectives:

1. To evaluate the effect of Trisugandhadichurna on kaphajchhardi.
2. To study chhardi in details with auurveda text and vomiting with modern text.
3. To provide safe and cost effective treatment of Trisugandhadichurna on kaphajchhardi.

Drug Review:

Drug is the second important chikitsa in chikitsachatuspad. Proper medicine is that which is having capacity to provide health and physician must have proper knowledge of the drug.

Definition of best drug is which is available in abundant , which can be gives in various form , which has specific therapeutic properly and last important thing is which has power to cure disease.

By Charkacharya that the drug to be used in child should have madhura and kashaya rasa. But in this study Trisugandhadichurna is selected .In Trisugandhadichurnatwaka and ella are katurasatmak.

Thus it was big difficulty that how to prepare this drug most palatable. But after mixing it with honey, it was found to be more acceptable and hence selected for the present study.

Drugs content:

Twaka 1 part

Ella 1 part

Patraka 1 part

Madhuanupan

In ayurveda, aushadhichikitsa (dravya) are different form like choorna, hima , kwath etc. according to their guna , karmas , vyadhi and its awastha , age and patient’s suitability.

The used part of vanaspati in aushadhi is roots, bark leaves, flower and fruits. They are used according to vyadhi in different form.

In our science they have described the panchavidhakashayakalpna which is the basic idea of all aushadhishastra.

In some drugs there property are stable and more effective when they are in dry form. Such dry raw drugs (dravya) can’t give for this complication, raw drug crushing and convert it into fine powder form and filter through clothes is called as churna.

When the vanaspati is in wet form the constituents and properties of these can vary because utilization of the constituents is in the process but in dry drug constituents are stable so there is no different change in their properties.

Actually it is better to use ardravanaspati for aushadhi because it gives maximum benefit. But in today’s fast life it’s not possible to bring fresh vanaspatidravya. So the method of preparation is important in today’s life.

In our clinical study we have selected our drug in the form of churna because of its effectiveness, acceptance, good presentation suitability and more convenient for the physician to prescribe specific amount of medicine according to age and weight for proper dose in children.

DRUG	LATIN NAME	RASA	VIPAK	VIRYA	GUNA
TWAKA	<i>Cinnamomum Zeylznicum</i>	<i>Katumadhur</i>	<i>Madhur</i>	<i>Ushna</i>	<i>Laghu, Tikshana, Ruksha</i>
ELLA	<i>Elletariacardamomum</i>	<i>Katumadhur,</i>	<i>Madhur</i>	<i>Shit</i>	<i>Laghu, snigdha, sugandhi</i>
PATRAKA	<i>Cinnamomumtamala</i>	<i>Madhur, katutikta,</i>	<i>Madhur</i>	<i>Ushna</i>	<i>Tikshna, snigdha, laghu</i>

Selection Of Cases:

60 diagnosed cases of randomly selected from OPD and IPD of Kaumarbhryta dept. and divided into 2 groups of 30 each

- **Group A** Trial Group 30 patients
- **Group B** Control Group 30 patients.

Drug Regimen:

	TRIAL DRUG	CONTROL DRUG
DRUG NAME	TRISUGANDHADI CHURNA	HARITAKI CHURNA
DOSE	5 – 15 gm/day.as per age,according to SharangdharSamhita.	5 – 15 gm/day.
SEVANKAL	Muhurmuhu ⁸	Muhurmuhu
DURATION	5 days	5 days
FOLLOWUP	1 st , 3 rd , 5 th day	1 st ,3 rd , 5 th day
NUMBER OF PATIENTS	30	30
ANUPAN	Madhu	Madhu
REHYDRARTION BY	ORS,as per need.	ORS,as per need.

Plan Of Work: It is a randomized clinical control study on the efficacy of Trisugandhadi Churna in management of Kaphajchhardi in children.

Clinical Study:

- **Place of Study** :At OPD and IPDof Kaumarbhrytadept,Ayurved Hospital.

Case data will be recorded.

- **Follow up study –**
Follow up will be taken on 1st, 3rd,5th dayof treatment.

Inclusion Criteria:

- Patients who will be clinically diagnosed as a KaphajChhardi.
- Selection will be irrespective of sex, religion & socio- economical class.
- Age between 5 to 15 years.

Exclusion criteria:

- Cases of Chhardi other than Kaphaj like Sannipataja, Bibhatsadarshnachhardi, Atisara,Food poisoning, Bacterial infections.
- Patients suffering from chhardi as Upadravatmaka symptom.

- Known anatomical defective & Genetic defective patients.
- Those having endocrine anomalies.
- Patient with associated symptoms of TB, AIDS any other systemic disease.
- Patients having severe dehydration due to Chhardi.
- All surgical cases.

Drug Name:

TRISUGANDHI CHURNA

DOSE: 5 TO 15 gm/day as per according to sharangdharsamhita

SEVAN KAL: Muhurmuhu

ANUPAN: Madhu

Subjective Criteria:

Hrallas(Nausea):

- 0 – No nausea
- 1 – On and off nausea but able to eat food
- 2 – Can take food some time
- 3 – Nausea on any food

Aruchi (Anorexia):

- 0 – No anorexia
- 1 – Can take food forcefully but in proper amount
- 2 – Can take forcefully but small amount
- 3 – Can't take food at all.

Episodes of chhardi (episode of vomiting)

- 0 – No episode of chhardi
- 1 – 1 to 2 episode of chhardi
- 2 – 3 to 4 episode of chhardi
- 3 – 5 to 6 episode of chhardi

Objective Criteria:

Score 0 – No dehydration

Score 1 – some dehydration

Score 2- severe dehydration

WHO CRITERIA FOR ASSESSMENT OF DEHYDRATION

SIGNS	NO DEHYDRATION	SOME DEHYDRATION	SEVERE DEHYDRATION
CONDITION	Alert or normal	Restless, irritable	Lethargic or unconscious
THIRST	Normal thirst	Thirst and drinks eagerly	Unable to drink
EYES	Normal	Sunken	Sunken and dry
TONGUE	Moist	Dry	Dry and parched
SKIN PINCH	Goes back quickly	Goes back slowly	Goes back very slowly
URIN OUTPUT	Normal	Oliguria	Severe oliguria or anuria.

Observations:

Table no. 1 - Age wise distribution

Age Group in years	Group (A)		Group (B)		Total	
	No. of patients	Percentage	No. of patients	Percentage	No. of patients	Percentage
5 to 10	24	80.00%	26	86.67%	50	83.33%
10 to 15	6	20.00%	4	13.33%	10	16.67%
Total	30	100 %	30	100 %	60	100 %

The above table reveals that -

In Group A - majority of the patients i.e. 24 (80 %) were reported in age group 5 to 10 years, and remaining 6 (20 %) patients observed in the age group 10 to 15 years.

Where in Group B – maximum i.e. 26 (86.67 %) patients were reported in age group 5 to 10 years, and 4 (13.33 %) patients observed in the age group 10 to 15 years.

Discussion:

Discussion on conceptual study:

Chhardi is defined as the impurity comes out through mouth with forcefully impulses covering the mouth and producing tearing pain in the body

Vomiting is very troublesome both to the parents as well as to children and some time it may be fatal if proper care is not taken for hydration. This disease can occur as separate entity or as symptom of systemic pathology or as a compilation of other diseases. The vomiting may be due to functional disturbance or due to infection or due to other systemic causes.

As our study on kaphajchhardi, trisugandhichurna has been described as being effective against kapha and thus can be used in many ailments in one or other forms. Trisugandhi is a safely practiced drug among many vaidyas and is quite easily available. This makes it a cheap asset as far as poor countries are concerned due to katu rasa ushna and tikshnagunait's helpful in kaphajchhardi.

Conclusion:

In present study majority of children were found in age group of 5-10 years which reflect the incidence of chhardi is more in this particular range. Maximum children had the history of irregular dietary habits vidahiharsevan, ajirna and mandagni which clearly shows the role of ama formation in the pathogenesis of disease chhardi

Poor personal hygiene, poor residential hygiene, bad eating habits, unawareness about health are the important etiological factors for infestation of chhardi.

Involvement of kaphajlakshanas were more prevalent in the disease chhardi probably due to kaphaj disorders are more common in this group.

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TO STUDY THE ROLE OF DASHMOOL SIDDHA TAILA MATRA BASTI IN THE MANAGEMENT OF KASHTARTAVA

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ABSTRACT

“The concept that changed life styles are responsible for the genesis of diseases” is very old and well known in Ayurvedic conceptualization. *Kashtartava* is among the few such diseases. It means painful menstruation. The disease ‘*Kashtartava*’ is not described in classics as well as in Vedas as an individual disease entity. Though it is a symptom of various *Yonivyapadas* specially *Udavarta*, *Vatala Sanipatika*, etc. it is one of the commonest gynecological complaints. It is a *Tridoshaja Vyadhi* with *Vata* predominance. In this, especially there is derangement of *Apana* and *Vyana Vayu*. It is a broad term which covers all the problems and ailments that a woman may suffer

from during or around menstruation. It includes both primary and secondary types of dysmenorrhea. For this study, however, we considered only primary dysmenorrhea under the term *Kashtartava* to cover a larger population and to make pin-pointed assessment criteria. Hence we decided to “**Study the Role of *Dashamoola Siddha Taila Matra Basti* in the management of *Kashtartava*”**. A single case study was conducted. She received *Dashamoola Siddha Taila Matra Basti*. This treatment was selected for the *Vatashamaka*, *Yonishula Prashaman* and *Shothahara* properties of the drugs. The dose was 60 ml per day and the duration of the treatment was for 7 days each cycle for two consecutive cycles. Results were assessed according to a specially prepared grading system for *Vedana* (*Kati*, *Prushtha*, *Vankshan*), *Alpartava*, *Yathochitkaladarshana*. The study suggests that *Dashamoola Siddha Taila Matra Basti* helps in relieving the symptoms of *Kashtartava* (primary dysmenorrhea).

KEYWORDS: *Kashtartava*, primary dysmenorrhea, *Dashamoola Siddha Taila Matra Basti*.

INTRODUCTION

Women's health is the primary factor to be considered for wellbeing of family, society and culture. Any physical or mental disorder disturbs her educational, social and economic life. Change in lifestyle, stress like factors are affecting woman's life in particular & disturbing her day to day life. *Kashtartava* i.e. dysmenorrhea is one of such condition. It is painful menstruation or menstrual cramps. Almost all women experience some degree of pelvic discomfort during and at the onset of menstrual flow.

Charakacharya opines that *Yoni* of women does not get affected without *Vata*.^[1] Vitation of *Apan vayu* therefore leads to *Sashul Rajahpravrutti*. The acharyas have described gynaecological disorders under a topic *Yonivyapad*, which are of total 20 types. *Sashul Rajahpravrutti* i.e. *Kashtartava* is one of the prominent symptom seen in *Udavarta Yonivyapad* which is *Vata -pradhan*.

Due to *Vegavrodh*, *Vayu* becomes *Pratiloma* and gets lodged in trayavarta yoni, characterized by pain, initially obstructs the flow of *Rajah* or pushes the rajah upwards. Hence it flows with great pain (*Kashta*). The women get relieved immediately following the free flow of *Rajah*.^[2,3]

It causes significant discomfort and anxiety for the woman as well as her family. For the present study we only considered primary dysmenorrhea as *Kashtartava* so that we would have clear-cut inclusion and exclusion criteria when selecting patients. Primary dysmenorrhea is a condition which causes painful menstruation without any demonstrable pelvic pathology. In addition to menstrual pain, many woman experience associated symptoms such as headache, constipation, nausea, vomiting, fatigue and leg pains.

The treatment usually advocated in modern medicine, i.e., analgesics, antispasmodics and/or oral contraceptive pills^[4], does not provide a long-lasting solution and besides, may lead to serious adverse effects. As yet there is no treatment regimen that can relieve the entire symptom complex of primary dysmenorrhea. Hence, there is a need to find a safe and long-lasting treatment for the condition. *Kashtartava*, especially when it manifests as primary dysmenorrhea, is a *Vata*-dominant condition. The drug that we selected for this study is good *Vatashamaka* drugs according to the classic texts. *Dashamoola* siddha oil has been advocated

for the treatment of *Udavarta Yonivyapada*^[5] which is one of the main disease conditions included under the term *Kashtartava* (primary dysmenorrhea).

AIMS AND OBJECTIVES

To study the efficacy of *Dashmool Siddha Tail Matra Basti* in the management of *Kashtartava* (primary dysmenorrhea).

MATERIALS AND METHODS

Drugs: *Dashmoola*

1) *Bilva*

Latin Name- *Aegle marmelos*

Family – *Rutaceae*, **Rasa-** *Kashaya Tikta*

Virya- *Ushna*, **Vipak-***Katu*

Doshghnata- *Kaphavata shamak*

Karma- *Shothahara*

2) *Agnimantha*

Latin Name- *Premna mucronata*

Family – *Verbenaceae*,

Rasa- *Tikta Katu Kashaya Madhur*,

Virya- *Ushna*, **Vipak-***Katu*

Doshghnata- *Kaphavatashamaka*

Karma- *Shothahara*

3) *Shyonaka*

Latin Name- *Oroxylum indicum*

Family – *Bignoniaceae*,

Rasa- *Madhur, Tikta Kashaya*,

Virya- *Ushna*, **Vipak-***Katu*

Doshghnata- *Kaphavata shamak*

Karma- *Shothahara*

4) *Patala*

Latin Name- *Stereospermum suaveolens*

Family – *Bignoniaceae*,

Rasa- Tikta Kashaya,
Virya- Ushna, **Vipak-**Katu
Doshghnata- Tridoshshamaka
Karma- Shothahara

5) *Gambhari*

Latin Name- *Gmelina arborea*
Family – *Verbenaceae*,
Rasa- Tikta Kashaya Madhur,
Virya- Ushna, **Vipak-**Katu
Doshghnata- Tridosha shamak
Karma- Shothahara

6) *Shalparni*

Latin Name- *Desmodium gangeticum*
Family – *Leguminosae*,
Rasa- Madhur, Tikta
Virya- Ushna, **Vipak-**Madhur
Doshghnata- Tridosha shamak
Karma- Shothahara, Angamardprashamana

7) *Prishniparni*

Latin Name- *Uraria picta*
Family – *Leguminosae*,
Rasa- Madhur, Tikta,
Virya- Ushna, **Vipak-**Madhur
Doshghnata- Tridosha shamak
Karma- Shothahara, Angamardprash

8) *Gokshura*

Latin Name- *Tribulus terrestris*
Family – *Zygophyllaceae*, **Rasa-** Madhur,
Virya- Sheet, **Vipak-**Madhur
Doshghnata- Vatapitta shamak
Karma- Shothahara, Mutravirechaniya

Amana

9) Kantakari

Latin Name- *Solanum surattens*

Family – *Solanaceae*, **Rasa-** *Tikta Katu*,

Virya- *Ushna*, **Vipak-***Katu*

Doshghnata- *Kaphavata shamak*

Karma-*Kasahar, Angamardaprashaman*

10) Brihati

Latin Name- *Solanum indicum*

Family – *Solanaceae*, **Rasa-** *Katu Tikta*,

Virya- *Ushna*, **Vipak-***Katu*

Doshghnata- *Kaphavata shamak*

Karma-*Kasahar, Angamardaprashaman*

Drug Preparation

The ten ingredients of dried *Dashamoola* (*Bilva, Agnimantha, Shyonaka, Patala, Gambhari, Shalaparni, Prishniparni, Gokshura, Kantakari and Brihati*)^[6] were collected. Equal amounts of the ten ingredients were taken and made into *Yavakuta* (crude powder) form. This was soaked in water overnight and on the next day *Kwatha* was prepared. This *Kwatha* along with *Kalka* of *Dashamoola* was added in *Tila Taila* and *Sneha* was prepared as per the standard protocol.^[7]

Investigations

- CBC
- Urine (Routine & microscopic)
- Ultrasound (SOS)

Follow-up

After completion of the treatment course the patient was requested to report for follow-up every 7 days for 2 months.

Method of administration of *Matra Basti*

The patient was advised to have a light meal on the day of treatment. Before administration of Basti, Abhyanaga (massage) with Tila Taila was done of the back and lower abdomen. Thereafter, Nadi Sweda (sudation) was performed. After this Purvakarma, the patient was asked to lie down in the left lateral position with the left lower extremity extended and the right lower extremity flexed at the knees and hips. Then 60 ml of lukewarm oil was loaded in an enema syringe. A rubber catheter oiled with oil was attached to the enema syringe. After any air in the enema syringe had been expelled, the rubber catheter was passed through the anus of the patient up to a length of 4 inches and the drug was administered. The patient was asked to take deep breaths during the passage of the catheter and the administration of the drug. The entire oil in the syringe was not administered in order to avoid entrance of *Vayu* into the *Pakvashaya* as it may produce pain. After the administration of *Basti*, the patient was advised assume the supine position. While in this position, the patient's buttocks were gently tapped and the legs were raised for a few minutes so as to raise the waist. These measures were intended to prevent the administered fluid from flowing out too soon. After a short time the patient was allowed to get up from the below table, and she was then advised to rest in bed for at least ½ an hour.

Drug	<i>Dashmoola Siddha Taila</i>
Dose	60 ml per day
Route	Rectal (<i>Matra Basti</i>)
Duration	Given for 7 days in each cycle for two consecutive cycles
Time period	Starting from mid-cycle

ASSESSMENT

Scoring for different parameters is done as follows

➤ **Pain (dysmenorrhea)**

Sr. No.	OBSERVATIONS	CRITERIAS	GRADE
1.	Pain	-Menstruation is not painful and daily activity is unaffected-	0
		-Menstruation is painful but daily activity is not affected. No analgesic required	1
		-Menstruation is painful and daily activity is affected. Analgesic drug is needed	2
		-Menstruation is so painful that patient is unable to do even the routine work and has to miss class/office during menses. Has	3

		to take analgesic, but without much relief	
2.	Duration	-No pain during menstruation -Pain persists for less than 12 h -Pain persists for 12-24 h -Pain persists for more than 24 h	0 1 2 3

➤ **Associated symptoms**

Sr. No.	SYMPTOMS	CRITERIA	GRADE
1.	<i>Artava Pramana</i> (assessment by number of pads used)	6-7 pads/cycle 4-5 pads/cycle 2-3 pads/cycle Spotting or 1 pad/cycle	0 1 2 3
2.	<i>Rajasrava Avadhi</i>	-Duration of menses 4-7 days -Duration of menses 3 days -Duration of menses 2 days -Duration of menses 1 day	0 1 2 3

DISCUSSION

Kashtartava (dysmenorrhoea) is the most common gynecological problem faced during adolescence. For the present study only primary dysmenorrhoea is considered as *Kashtartava*.

In the pathogenesis of *Kashtartava*, it is *Tridoshaja Vyadhi* with *Vata* predominance. *Rasa, Rakta, Artava* are *Dushya*. *Kashtartava* is mainly due to obstruction of *Apan Vayu*. *Basti chikitsa* is the main *chikitsa* for *Vata Dosha*.

For the purposes of this study, therefore, we made an effort to classify all disorders with any type of pain or discomfort related to menstruation as either primary or secondary. All menstrual disorders in which pain or discomfort was the most prominent feature were categorized as primary dysmenorrhea; those in which there were local features such as inflammation or systemic features such as inflammation or systemic features such as fever were considered as secondary dysmenorrhea. There are several conditions, including *Vatala, Vataja Artavadushti, Udavarta, Suchimukhi* and *Artavakshaya*, in which there is pain associated with menstruation along with backache, pain in groins, stiffness, etc. but no

abnormality of menstruation other than perhaps a decrease in the amount of flow or the duration. This picture suggests that these conditions are a form of primary dysmenorrhea, without any pelvic pathology.

In the present study we take *Dashamool Siddha Taila Matra Basti* in the management of *Kashtartava*. According to the concept of *Viryasamkranti* (transformation of potency) described by Acharya Charaka,^[8] the potency of *Dashamoola* is already transferred in *Dashamoola Kwatha*, and the potency of *Dashamoola* in the *Kalka* form, on processing with oil, further causes the *Viryasamkranti* into the *Taila*. Thus the *Taila* carries the whole potency of the drug in it. *Madhura, Tikta, Kashaya Rasa, Guru, Snighda Guna, Ushna Veerya, Madhura Katu, Vipaka, and Tridoshanashaka Karma* of *Dashamoola Taila* acts on *Kashtartava* by its *Dravya, Guna* and *Prabhava*. It has being proven that *Dashamoola* has anti-inflammatory, analgesic and antipyretic^[9] actions.

CONCLUSION

Vata is the main cause of *Kashtartava*. It is similar to primary dysmenorrhoea. *Basti* is the first line if treatment for *Vata Dosha*. *Matra Basti* is found to be effective in relieving symptoms of *Kashtartava*.

On the basis of observations obtained after the completion of pilot study, it can be concluded that *Dashmool Siddha Taila Matra Basti* effective in relieving the whole symptom complex of *Kashtartava*.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Different Hetus Of Hridroga.

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Introduction-

Nowadays, INDIA is the Capital of Heart Disease in World. Now people who lives in city, among them 70% people has risk of Heart Disease. Also 25-35 yrs age group people are more prone to become a Heart Disease. According to survey, In 2020, in all deaths, 1/3rd deaths are due to Heart Disease. So to avoid all this scenario one must know about various causative factors for Heart Disease.

In Ayurveda, Hridroga Vyadhi explained by Brihat-Trayee with their Nidana Panchakas. Hridya is most important Sharir-Rachana of our Sharir in both Kriyatmaka and Rachanatmaka Sharir. Hridya is one of the Pradhana Marma, which is the Sthana of Prana. In Sharir-Kriya whatever we eat, 1st it is convert it in to Aahara-Rasa and then consequently from Rasa Dhatu to uttarottar Dhatus as explained by our Acharyas. Hridya is sthana of spreading Rasa in all over Sharir within a second through its Rasa-Vahinis. So if heart is healthy all its related Sharir Rachana and Kriyas are healthy and person becomes Swastha.

Most important part about Hridya explained only in Ayurveda Science is concept of Mana, One of the Sthana of Mana is Hridya. Nowadays many Pscycological problems or many emotional situations also related to Hridya and if they are vigorous then definitely lead to Hridroga so here we find a ref. between Hridroga and Mana (Mind).

Today's lifestyle changed so fast due globalization in which increased competition, busy schedules, no time for loved ones that's why no mental and physical relaxation, life becomes so materialistic. Settlement stress, excessive competition starts from school going child to working class i.e. up to 40 yrs age. Also in elder people due to family problems mental stress increased and disturbances occur which lead to Hridroga here we can consider Manasa Bhava of Hridya.

Dietary habits also very very wrong, Viruddha-aahara, fast food consumption which are main Hetus for Raktavaha Srotas Dushti that welcomes new diseases. Irregular timings for taking food, sleep, bath, exercises and many more things, No any proper Clock which runs according to Nature's Clock. These things are very very harmful for Swastha.

DIFFERENT HETUS FOR HRIDROGA:-Ref. [Cha.Chi.26/77. Su.U.43/3. A.H.Ni.5/38, A.H.Ni.11/33-38.]

1.Aaharaja

- Paryushita
- Ruksha
- Shuska.
- Vidaahi.
- Viruddha-aahara
- Atimatra Aahara.
- Adhyashana
- Astmya.
- Ajjenrnashana.
- Atyushna.
- Teekshnati bhojana-(Spicy,oily food).

2.Viharaja

Aahara:-

- Whenever hungry drinking cold water.
- Forcefully do the episodes of vomiting.
- After eating that is taking lunch,dinner,breakfast do swimming or other different physical exersional exercises.
- Aahara-Vihaara which reduced body weight or leads to Prakopa of Vata Dosha.

Panchakarma:-

- Ativirechana-Atibasti.
- Person who becoming weak due to fever,vomiting or dysentery and tired due to vamanadi panchakarmas,and in this condition if he eats vataprakopaka aahara.
- Do shodhanadi karmas without doing snehana and swedana.
- Do not follow paschat karma or Sansarja-Krama after Pradhana karma that is immediately eating spicy,oily abhishyandi food after doing basti,Vamana, virechana or raktmokshana without following Sansarjana karma.

Vyadhi:-

- Improper Chikitsa.
- Excessive vomiting.
- Aama-Dosha Aadhikya.

3.Manasa Hetu

- Chinta.
- Bhaya.
- Traasa.

4.Accidental Injury At Hridaya.

5.Vega- Vidharana.

It is one of the important hetu in Hridrog, some detail explanation for this hetu we explained here-

Following are some Sharir Bhavas which are not controlled in any condition if this happen repeatedly they becomes Hetus for many more Diseases. Hridroga is also one of them.

- Shrama-Nishwasa Dharana-
After physical exertion rate of breathing increases and if in that condition if person stopped or control breathing instead of taking deep breathe. so chances of getting Hridrog increased.
- Bashpa- Vegavarodha-
If any one forcefully stopped tears or suppressed emotions.
- Pipasa-Vegavarodha-
If any one controls over thirst instead of drinking water.
- Udgar-Nigraha-
If any one stop or control on belch. (Udgar)
- Kasa-Avarodha-
If any one stop or control on kasa forcefully.
- Apaana-vayu Avarodha-
Hridagada
- Shakruta-Avarodha-
Hridyasya-Aprodhanam.

Here We Discussed Different Hetus Of Hridroga. By Changing Above Habits We Should Control On Hridrog, Finally Our Goal is "Prevention Is Better Than Cure" Which We Achieved Only By Our Ayurveda.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

“Patho – Physiology Of Hyperthyroidism & Their Ayurvedic Management”

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Abstract :

Ayurveda is the Science of life deals with the Preventive and curative aspect. According to Ayurveda any disorder **Tridosha's** are responsible. Hyperthyroidism is due to **Vata & Pitta dosha vaishamya**. The multidimensional process of biological transformations in the body are controlled and regulated by **AGNI**.

Hence Agni (Dhatwagni) are disturbed in Hyperthyroidism. BMR is regulated by this

Agni.

The Hyper metabolic state is maintained by **Dhatwagni** and it is manifested as **Dhatukshya** in the body. So there will be Dhatukshya at different levels since thyroid hormones enhance all aspects of cellular metabolism. Dhatugata Atyagni is the hallmark feature of Hyperthyroidism.

So due to Agnidushti, Srotodusti and Vata-Pitta Vaishamya symptoms like Weight loss, hot intolerance, Hair loss, restlessness, muscle weakness, irregular menstrual cycle, fatigue, osteoporosis, diarrhea, anorexia, palpitation, ankle swelling, sweating, infertility all symptoms are seen.

To treat Hyperthyroidism line of treatment must be :-

To control tikshna agni

To control dhatupaka

Dhatu sarvardhana

Vatpitta shaman

Ojovardhana

Exercise & relaxation

Diet Modification :- is essential for the treatment of Hyperthyroidism. Treatment must be Shaman Aushadhi & Sanshodhan (Nasya, Virechana etc.) & Rasayan treatment must be given.

Key words :- Patho – physiology, Hyperthyroidism, Ayurvedic & Management.

Aim :- The aim of article is to discuss the pathogenesis and management of Hyperthyroidism.

Objectives :- To create awareness of treatment of Hyperthyroidism according to Ayurveda.

Type of study :- Descriptive and conceptual study.

Literary review :- According to ayurveda (Charaksamhita) our sharir is made up of dosha, dhatu and malas. All these responsible for maintaining body. Roga (disease) is the effect of disequilibrium of dhatus and health is the results of equilibrium of doshas & dhatus.

(Dhatu samya kriyachokta tantrasya aasya prayojanam)

Introduction :-

In the modern era day to day Hyperthyroidism is the commonest problem. More than 5 million cases per year are diagnosed in India.

Hyperthyroidism also called over active thyroid or high thyroid is a common disorder of the endocrine system in which the thyroid gland produce excess thyroid hormones. (Thyroxin)

Hyperthyroidism can accelerate your body’s metabolism significantly causing sudden weight loss, a rapid or irregular heartbeat, sweating & nervousness and irritability. Grave’s disease the most common cause of Hyperthyroidism is more prevalent in women than in man.

Hyperthyroidism occurs when the thyroid makes too much T4, T3 or both. Diagnosis of overactive thyroid and treatment of the underlying cause can relive symptoms and prevalent complications.

Causes :-

A verity of conditions can cause Hyperthyroidism.

- 1.Grave’s disease an autoimmune disorder is the most common cause of Hyperthyroidism.
- 2.Excess iodine, a key ingredient in T4 & T3.
- 3.Thyroiditis or inflammation of the thyroid which causes T4 & T3 to leak out of the gland.
- 4.Tumors of the ovaries or testis.
- 5.Benign tumors of the thyroid or pituitary gland.
- 6.Large amount of tetraiodothyronine taken through dietary supplements or medication.

Signs & Symptoms:-

- In Hyper metabolic state you may experience a rapid **heart rate, elevated BP and hand tremors.**
- You may also sweat a lot and develop a low tolerance of heat. In Hyperthyroidism, more frequent bowel movements **weight loss** and in women irregular menstrual cycles.
- Visibly the thyroid gland itself can swell in to a **goiter**, which can be either symmetrical or one sided.
- Eyes may also appear quite prominent, which is a sign of **exophthalmos**, a condition that’s related to grave’s disease.

Other symptoms :-

Increased appetite

Nervousness

Restlessness

Inability to concentrate

Weakness

Irregular heartbeat

Difficulty in sleeping

Itching

Dyspnoea on exertion

Angina

Diarrhea

Digital clubbing

Amenorrhea

Hair loss

Loss of libido

Nausea and vomiting

Spontaneous abortion

Breast development in men.

Fatigue & Thirst

The following symptoms require immediate medical attention.

Dizziness

Shortness of breath

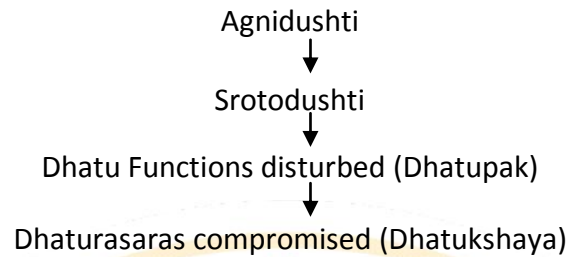
Loss of consciousness

Fast and irregular heartbeat

Pathophysiology :-

- Thyroid Hormone is required for the normal functioning of numerous tissues in the body.
- In health the thyroid gland predominantly secretes thyroxine (T4) which is converted in to triiodothyronine (T3) in other organs by the selenium dependant enzyme iodothyronine deiodinase.
- T3 binds to the thyroid hormone receptor in the nucleus of the cell.
- The thyroid gland is the only source of thyroid hormone in the body, the process requires iodine and the amino acid tyrosine. Iodine in the bloodstream is taken by the gland and incorporated in to thyroglobulin molecules. The process is controlled by the TSH which is secreted by the pituitary gland.
- Not enough iodine or not enough TSH can result in decreased production of thyroid hormones.
- The **Hypothalamic – Pituitary – Thyroid axis** plays a key role in maintaining thyroid hormone levels within normal limits.
- The production of TSH by the anterior pituitary gland is stimulated in turn by thyrotropin releasing hormone (TRH) released from hypothalamus.
- Fundamental effect is deficient production of thyroid hormones due to various factors, but most common for is dietary lack of iodine. Which gets result in lack of thyroxin. Thyroxin is made up of by iodine and tyrosine (Aminoacid).
- Deficient thyroid hormone production causes excessive TSH Stimulation which lead to hyperplasia of follicular epithelium as well as formation of new thyroid follicles.
- Rapid and prolonged changes of hyperplasia result in continued growth of thyroid tissue while involved areas undergo fibrosis **nodular goiter**.
- **Thyrotoxicosis** is a toxic condition of tissues exposed to the excessive thyroid hormones.
- Thyroid hormones metabolism runs in hypothalmo – pituitary – thyroid axis, but target tissues of thyroid dysfunction are multiple.

Pathophysiology of Hypothyroidism by Ayurveda :-



Dosha – Vata Pitta

Doosha – Rasa – Rakta – Mamsa

Agni -Teekshnagni– at kosta & Dhatu level

Type of Srotodushti – Atipravrutti

Rogmarga – all three.

Diagnosis :-

By complaints medical history and physical examination.

Wight loss

Rapid pulse

Elevated BP

Protruding Eyes

Enlarged thyroid gland

Other Test:-

Lab testing of TSH levels in blood is considered the best initial test of Hyperthyroidism.

A second TSH level is often obtained several weeks later for confirmation.

T4, Free T3, T4

TSH – low TSH sign of Hyperthyroidism

Cholesterol test – low cholesterol sign of - elevated MBR

Triglycerides – low triglyceride - elevated MBR

Thyroid scan and uptake

USG – Size of entire thyroid and mass of gland.

C.T. or MRI Scan – for pituitary tumors.

Management of Hyperthyroidism :-

1. **Medication :-** Anti thyroid medication such as methimazole (Tapazole). Carbimazole 5 to 20 mg dally for 18 to 24 months.
2. **Radioactive Iodine :-** It effectively destroys the cells that produce hormones.
3. **Surgery :-** A section or all of thyroid gland me be surgically removed.(Subtotal thyroidectomy)

You will then have to take thyroid Harmon supplements to prevent Hypothyroidism.

To improve symptoms :-

1. Eating proper diet – with a focus on calcium and sodium is important.
2. Stress or infection can cause thyroid storm- so manage your stress and infection very well.

2. Management by Ayurveda :- Line of treatment -

Treatment of Teekshnagni.

Treatment of Dhatupaka

Treatment of Dhatusara Vardhana

Treatment of Vata, Pitta Shaman

Treatment of Ojovardhan

Active exercise

Yogasan and relaxation &

Diet modification

Nidan Parivarjan

1) Shodhan Chikitsa :- (Panchkarma) in Hyperthyroidism -

1. Virechan :- It corrects Pitta related pathologies. Virechan in good for bringing Vatanuloman in Srotuses. Virechan with trivruth leha 25gm after 8 a.m. Virechan with Kalyanak Gula 25gm after 8 a.m.
2. Nasya :- Bramhana nasya with ksheerbala oil.
3. Dhara :- ksheerdhara for stress release.

2) Shaman Chikitsa :-

1. Shatavariyadi kwatha – 2 times in day
2. Shatavari ksheerpaka
3. Dadimadi Ghritum – 20 gm BD
4. Kumaryasav – 20 ml with water

3) Rasayan Chikitsa :- for dhatuagnimandhya

1. Shatavari Rasayan – 2gm with water
2. Aswagandha Rasayan – 2gm with water
3. Amlaki Rasayan
4. Guduchi Rasayan
5. Vidarikanda Rasayan
6. Jalkumbhi Bhasma – 500 mg with milk.

4) Yoga & Meditation :-

1. Bhujangasan
2. Sarvangasan
3. Matsyasan
4. Relaxation with Deep breathing
5. Massage therapy
6. Anulom-Vilom Pranayam
7. Meditation

5) Active Exercise:-

Around half hour in each day can help improve energy level and reducing fatigue. It can improve your bone density.

6) Diet :-

Rich protein diet is essential with Vitamins, Minerals, Calcium, Iodine & Selenium contain diet is necessary.

Eat – Eggs, cereals, lean meat, fish, pulses, yellow fruits which include Papaya & mango.

Milk and other dairy products.

Banana, cauliflower and broccoli & Carot.

Avoid – Artificial sweeteners or product that contain aspartame like diet sodas. Foods that are high in iodine Processed meats like sausage and hamburgers.

Discussion & Conclusion :-

- Hyperthyroidism can be treated by Ayurvedic Management. Massage, Virechan, Nasya, Dhara, Rasayan Aushadhi & Diet Modification are beneficial in Hyperthyroidism.
- Hyperthyroidism is due to Vata – Pitta- Prakop, hence Vata-Pitta Chikitsa Upakram according to pathophysiology is beneficial.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Role Of Agnikarma Chikitsa In Tennis Elbow As Analgesic

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Abstract

The tennis elbow is one of the most common tendinopathy of the human body. It is found to be associated with some particular occupations and life style. Patients of tennis elbow, who don't get relief by the conservative management or local anesthetic and hydrocortisone or not affordable for surgical management of tennis elbow, can be cured by parasurgical management of tennis elbow. In Sushruta Samhita, Agnikarma has been mentioned for disorders of Snayu (ligaments and tendons), Asthi (bone), Sandhi (joints). In Ayurveda, Snayu Vikara can be correlated with the condition of tennis elbow. This therapy provides relief in pain and helps to improve movement of the elbow joint.

Therefore, we have decided to study this disease on Ayurvedic principles. And to establish standard treatment, for this disease which will provide long term relief. And it should be cost effective. Also it should not have any side effects.

Key Words: Agnikarma, Snayu Vikara, Tennis Elbow

Introduction

The Tennis Elbow is the most common tendinopathy of the human body. But only 5-8% people are tennis players. Labours, Politicians, celebrities violin players, surgery staff, and house-wives can also develop a Tennis-Elbow. Most of the affected people get this problem due to their jobs.

As far as Nidana is concerned, Vata Prakopa can be taken as Nidana of Tennis Elbow and according to modern science over use of tendon of extensor origin or sudden trauma leads to Tennis Elbow.

The cardinal symptom of Tennis Elbow is pain on the outer aspect of elbow joint which may radiate to forearm and hand. As certain movements of elbow and wrist joint are painful,

patient find it difficult to do daily routine work. The pathogenesis of Tennis Elbow at the histopathological level it is found that it is a degenerative disorder

Aim: To study the role of agnikarma chikitsa in tennis elbow as analgesic.

Objectives:

- To study the aetio-pathogenesis (Samprapti) of Tennis Elbow in Ayurvedic aspect
- To study the aetio-pathogenesis of Tennis Elbow in Modern perspective and influence of life-style on the disease.
- To estimate the efficacy of Agnikarma.

Need For Study

- To provide a better treatment to the patients than standard treatment given by modern orthopedic surgeons i.e. Local Anaesthetic Hydrocortisone. (LAHC).

Material:

- Panchdhatu shalaka
- Jatyadi ghrita
- Gauze pieces
- Dressing pads
- Cotton bandage
- Triphala churna

Method:

The study was exclusively based on clinical trials. A detailed Proforma was prepared for the study.

The patients attending the O.P.D. and I.P.D. of Shalya Tantra Department, of C.S.M.S.S. Ayurved Mahavidyalaya, Aurangabad, were selected for study.

Criteria for inclusion of the patients

- Patients were diagnosed mainly on the basis of signs and symptoms found in Tennis elbow.
- Patients of age group 20-60 yrs.

Criteria for Exclusion of the patients

- Patients not willing to undergo trial.
- Patients below 20 years and above 60 years of age..
- Patients having joint disorders, Tuberculosis, Diabetes or having associated some other chronic disorders etc. were excluded from study.

Management

After the diagnosis, the patients were randomly categorized into two groups.

- Group A. Agnikarma therapy.
- Group B. Standard Treatment (i.e. LAHC)

A) Agnikarma Therapy (Trial group)

Study has been done in 4 settings as per day 1, day 7, day 14, and day 21 i.e. 7 days (a week) gap between each setting

B) Standard Treatment (i.e. LAHC)

Standard treatment of Tennis elbow i.e. Local anesthetic and like xylocaine and 1ml of hydrocortisone acetate injected at most tender spot. This injection may be repeated after 3 weeks.

A) Agnikarma Methodology

1} Purva Karma

- Informed written consent.
- Required material collected. (i.e. a Panchdhatu Shalaka of Bindu type projection, gas stove, gauge pieces, cotton pads, jatyadi ghrita, triphala churna, adhesive tape, cotton bandage,.)
- Most tender spot of the elbow joint was selected.
- Site for agnikarma was cleaned .

2} Pradhana Karma

- Patient was given suitable position.
- Jatyadi ghrita was applied on the site (with the help of gauze piece.)
- The Panchadhatu shalaka was heated upto red-hot.
- Bindu type Dagdhas were made on the most tender spot of the elbow joint, till the Samayaka Dagdha Lakshanas occurred.
- Triphala churna pratisaran done.

3} Pashchat karma

- Immediately after sprinkling Triphala churna, dressing done with cotton bandage. .
- Patients were advised to keep the area dry, clean, avoid exertion, trauma.
- Patient was called on for follow up after 7days for next setting .

Criteria for Assessment

The improvement in the patient was recorded on the basis of relief in the signs and symptoms of the disease.

Parameters-

*Subjective:-

1)Pain (Vedana) .

VRS (Verbal Rating Scale) For Pain :

0 : Absence of pain /no pain.

1 : mild pain that can be easily ignored no medicine required.

2 : moderate pain that cannot be ignored and medicine required sos.

3: severe pain which needs constant attention and patient demands medicine.

2)Tenderness:

VRS (Verbal Rating Scale) For Tenderness :

0: No tenderness.

1: Mild tenderness on firm pressure.

2: Moderate tenderness on gentle pressure.

3: Patient denies touching.

3)Pricking sensetion:

VRS (Verbal rating scale) For Pricking sensetion

0: No sensetion.

1: Mild sensetion on pricking or occasional positive.

2: Moderate sensation on pricking or constant mild pain after pricking.

3:constant and sever pain on pricking.

4)Inability to do specific works (Daurbalya):

0:No difficulty in any work.

1:can't do specific task.

2:difficulty in movement

3:cant make any movement.

5)Cozen's sign:

1:No pain against any resistance

2:pain against mild resistance.

3:pain against moderate resistance.

4: pain against sever resistsnce.

6)Mill's maneuver:

1:Not positive

2:Pain at full palmer flexion

3:Pain at mild palmer flexion

4:Pain at beginning of palmer flexion

Criteria Assessing the Total Effect

1. Cured - 100% relief in signs and symptoms.
2. Markedly improved-More than 75% relief in signs and symptoms.
3. Improved- 25- 75% relief in signs and symptoms.
4. Unchanged- Below 25% relief in signs and symptoms.

Effect	No. of Patients	Percentage
Cured	01	10%
Markedly Improved	08	80%
Improved	01	10%
Unchanged	00	0%

Table no. 1: over all effect of therapy (Trial group i.e. Agnikarma therapy)

Effect	No. of Patients	Percentage
Cured	08	40%
Markedly Improved	12	60%
Improved	00	0%
Unchanged	00	0%

Table no. 2: Over all effect of therapy (Standard Group i.e. L.A.H.C.)

Effect	Trial Group	Standard Group
Cured	10%	40%
Markedly Improved	80%	60%
Improved	10%	0%
Unchanged	0%	0%

Table no. 3 : comparative study of Overall effect of therapies in both the groups

SN.	Cardinal Signs & Symptoms	Trial Group					Standard Group				
		SD	SE	't'	'p'	% relief	SD	SE	't'	'p'	% relief
1.	Pain	0.70	0.22	15.37	<0.001	89.19	0.52	0.16	22.03	<0.001	100
2.	Prick Pain	0.79	0.30	08.78	<0.001	85	0.82	0.31	09.72	<0.001	84
3.	Radiation Of Pain	0.53	0.20	12.14	<0.001	94.44	0.46	0.16	16.80	<0.001	100
4.	Loss of Strength	0.32	0.10	20.98	<0.001	100	0.33	0.11	19.09	<0.001	100
5.	Tenderness	0.47	0.15	13.41	<0.001	90.90	0.32	0.10	18.99	<0.001	95
6.	Cozen's Test	0.79	0.25	07.21	<0.001	78.26	0.57	0.18	10.58	<0.001	86.36
7.	Mill's maneuver	0.82	0.26	08.82	<0.001	85.71	0.52	0.16	15.91	<0.001	96.30

Table no. 4: Comparitive study of results in both the Groups

S.No.	Signs And Symptoms	S.E.	't' value	'p' value
1.	Pain	0.3667	0.8182	>0.05
2.	Pricking Sensation	0.6864	0.5828	>0.05
3.	Radiation of pain	0.4282	1.16	>0.05
4.	Loss of Strength	0.2000	1.000	>0.05
5.	Tenderness	0.1000	1.000	>0.05
6.	Cozen's Test	0.2700	0.3612	>0.05
7.	Mill's Maneuver	0.2906	0.6882	>0.05

Table no. 5: Comparative Study of Results in Two Groups

Sr.	Cardinal Signs & Symptoms	Trial Group Mean Score		% age relief	Standard Group Mean Score		% age relief
		B.T.	A.T.		B.T.	A.T.	
1.	Pain	3.7	0.4	89.19	3.6	0	100
2.	Pricking Sensation	2.86	0.43	84.97	3.6	0.57	84.17
3.	Radiation Of Pain	2.6	0.14	94.62	2.75	0	100
4.	Loss of strength	2.1	0	100	2.11	0	100
5.	Tenderness	2.2	0.2	90.99	2.0	0.1	95
6.	Cozen's Test	2.3	0.5	78.26	2.2	0.3	86.36
7.	Mill's maneuver	2.8	0.4	85.71	2.7	0.1	96.30

Table no.6 : showing the comparative mean score of assesment criteria (trial group/standard group)

Discussion:

1.PAIN: In term of % age relief standard group had better results than trial group with 100 % relief in pain,

S.D. = 0.52, S.E. = 0.16 , t = 22.03 and p < 0.001 while trial group shown 89.19 % relief with S.D. 0.73,

S.E. =0.22, t = 15.37, p < 0.001.

2. Pricking Sensation:In case of Toda, patients of trial group and standard group showed almost equal effect of both therapies with 84 % relief,

S.D. = 0.82, S.E. = 0.31, t =9.72, and p < 0.001 in standard group and 85 % relief,

S.D. = .079, S.T. = 0.30, t = 8.78, p < 0.001 in trial group.

3.Radiation of pain: in case of radiation of pain standard group showed better results than trial group with 100% relief in symptoms S.D. = 0.46, S.E. = 0.16, t = 16.80, p < 0.001 while trial group showed 94.44 % relief with S.D. = 0.53,

S.E. = 0.20, t = 12.14, and p < 0.001.

4.Inability in doing work (Dourbalya)

Here, both trial group and standard group showed equal results i.e. 100% relief while standard group showed S.D. = 0.33, S.E. = 0.11, t = 19.09, p <0.001 while trial group have S.D. = 0.32, S.E. = 0.10, t =

20.98 and p < 0.001

5. Tenderness

Here also standard group showed better results with 95 % relief S.D. = 0.32, S.E. = 0.10, t = 18.99, and p < 0.001 while trial group showed 90.90 % relief with S.D. = 0.47, S.E. = 0.15, t = 13.41 and p < 0.001.

6. Cozen's Test

In case of Cozen's test patients of standard group showed better results with 86.36 relief , S.D. =0.57, S.E. = 0.58, t = 10.58 and p < 0.001, while patients of trial group showed 78.26 % relief with S.D.= 0.79, S.E.= 0.25, t = 7.21 and p < 0.001.

7. Mil's Maneuver

Patients of standard group showed better results with 96.30 % relief, S.D. = 0.52, S.E. = 0.16, t =15.91 and p < 0.001, while patients of trial group showed 85.71 % relief with S.D. =0.82, S.E. = 0.26, t =8.82 and p < 0.001.

Overall effect of therapy wise standard group showed better results as 40 % patients were cured and 60 % patients were markedly improved while in Trial group 10 % patients were cured, 80 % were markedly improved and 10 % were improved.

Conclusion

It is a disease caused by Vata prakop in Kandaras (a type of Snayu) involve in kurparSandhi (elbow joint).Statistically both the therapies areequally effective in the management of Tennis Elbow.No side effect of either Agni Karma or LAHC was recorded. This disease is more common in people more manual works. It can be concluded that LAHC is better than Agni-Karma in immediate results but Agni-Karma can provide better modality of management of Tennis-Elbow but it requires further work on it.

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A COMPARATIVE STUDY OF AGNIKARMA BY PANCHADHATU SHALAKA AND LAUHA SHALAKA IN THE MANAGEMENT OF HEEL PAIN DUE TO CALCANEAL SPUR

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ABSTRACT

Ayurveda is an ancient science. There are various types of *Vaidic* literature which represents a copious and precise knowledge. *Sushruta Samhita* is one of them. *Acharya Sushruta* has mentioned surgical and parasurgical procedure. *Agnikarma* is among of them. The incidence of Calcaneal spur in Indian population with Heel pain is 59 %. The Heel pain occurs majorly due to Calcaneal spur. It is one of the most troublesome common health complaints. Usually it affects badly people's routine work and it is very difficult for the body to heal. Hence, it is necessary to cure this problem completely. *Agnikarma* is the method to eradicate complete pathology of disease. In this study we compared the effect of *Agnikarma* by *Panchadhtu shalaka* in Trial Group A (20 pts.) and *Agnikarma* by *Lauha shalaka* in Control Group B (20 pts.) on Heel pain due to Calcaneal spur.

Keyword: Heel pain, Calcaneal spur, *gnikarma*.

INTRODUCTION

In modern medical science, Calcaneum is the name for the heel bone and spurs means tiny projection. The middle aged overweight, high heeled foot wear exert more pressure over heel region. This leads to stretching or flattening of the Calcaneum and thorny hook shaped growth formed in the local regions. It gradually exerts the pressure over soft tissue around it. When a foot bone is exposed to constant pressure, it causes to build up calcium deposit on the bottom of the heel bone. Repeated damage for long time causes these deposits to pile up on each other causing spur shaped deformity. They are frequently associated with planter fasciitis. There are a large percentage of people suffering from this disease. This is most often seen in patients over the age of 35 years. It is declared by many surveys that women are the common sufferers. It may be due to the use of high heeled foot wear and overweight¹.

Sushruta Samhita is a main pillar of *Ayurvedic* surgery. *Acharya Sushruta* has mentioned

Agnikarma, which is therapeutic burning on specific sites. It can be done with various tools like *Pippali*, *Ajashakruta*, *Godanta*, *Shara*, *Shalaka* etc². *Acharya Vagbhata* has suggested *twaka*, *mansagat dahanakarma* with *Lauhadi shalaka* (i.e. Tamra, Lauha, Raupya, kasya etc.) which is applied on various diseases like *Granthi*, *Arbuda*, *Arsha*, *Antravridhi*, *Bhagandara*, *Dushta Vrana* etc³. As per modern medical science Calcaneal spur is a bony projection it can be correlated with *Adhyasthi*⁴. *Adhyasthi* is an *asthiprado-shaja Vyadhi* which is caused due to *Vatakar Aharvihar*, *Vyayam* etc⁴. It means there is a *prakopa* of *Vata Dosha*. *Acharya Sushruta* has indicated *Agnikarma* on *Asthigata Vata-prakopa* for complete cure of disease⁵. Therefore we studied the Comparative effect of *Agnikarma* by two types of *shalaka* in 40 patients on heel pain due to Calcaneal spur.

AIMS AND OBJECTIVES

- To evaluate the effect of Agnikarma with Panchadhatu shalaka and Lauha shalaka in Heel pain due to Calcaneal spur.
- To compare the effect of Agnikarma with Panchadhatu shalaka and Lauha shalaka in Heel pain due to Calcaneal spur.

MATERIAL AND METHOD

Patients suffering with complaint of Heel pain due to Calcaneal spur, attending OPD of Shalyatantra Dept. C.S.M.S.S. college kanchanwadi Aurangabad, were registered. The patients were diagnosed on the basis of signs and symptoms and divided randomly in two groups irrespective of their age, sex, religion, caste, occupation etc. Case histories were noted in specially prepared case proforma.

Clinical study

The patients were divided into two groups as follows: Group A: Agnikarma done by Panchadhatu shalaka. Group B: Agnikarma done by Lauha shalaka.

Inclusion criteria

Patients suffering from pain in heel due to Calcaneal spur confirmed by X- ray after clinical diagnosis.

Exclusion criteria

- D.M.
- Pregnancy
- Anaemia.
- Leprosy.
- K/c of any major systemic disorder.

Agnikarma Vidhi

- **Purva karma**
 - Patients were advised to have Snigdha and Pichichhila diet on the day of Agnikarma⁶.
 - Informed consent of patients were taken.
 - The specific site for Agnikarma was confirmed as area of maximum tenderness.
 - Jatyadi Ghrita was applied locally on it.
- **Pradhana karma**
 - At this site Agnikarma was done in 13 – 15 Bindu till Samyaka dagdha Vrana were achieved.
- **Pashchata karma**

- Dusting of Triphala churna was done on Samyaka Dagdha Vrana and it was dressed with

Sitting of Agnikarma

A total of seven sitting of Agnikarma were done with a gap of 7 days in 43 days. Follow up for next Agnikarma – on every 8th days.

Last sitting of Agnikarma on 43rd day.

Last observation of study on 50th day.

Assesment criteria

1) Parshni shoola (Pain even on rest.)

2) Parshni Sparshaasahatwa (Pain during walking / on pressure.)

- **Parshni shoola (Pain)**

0 – No pain

1 – Mild (occasionally)

2 – Moderate (frequently)

3 – Sever (almost constant)

- **Parshni Sparshaasahatwa (Tenderness)**

0 – No tenderness

1 – Mild (occasionally)

2 – Moderate (frequently)

3 – Sever (almost constant)

Investigation

X - Ray before and after treatment, AP view and Lateral view of affected Heel.

❖ OBSERVATIONS AND RESULTS

In present clinical trial total 40 patients were registered from which 20 patients in Group A & 20 patients in Group B excluding dropouts. Among 40 patients, 62.5% of patients were in age group of 36 to 50 yrs. & 37.5% patients were in age group of 21 to 35 yrs. The maximum number i.e. 72.5% were female while remaining i.e. 27.5% patients were male.

Sr. No	Observation	Maximum Category	Group A (20 pts.)	Group B (20 pts.)	Total	In %
1	Age	21 – 35	06	07	13	32.5%
		36 – 50	15	12	27	67.5%
2	Sex	Female	16	13	29	72.5%
		Male	04	07	11	27.5%
3	Health	Middle aged over-weight	15	17	32	80%

• **Effects of therapy: (Before and after treatment)**

Pain in Group A

	BT	AT	Difference
P value	0.0019		
Mean	2.3	0.4	1.9
Std. deviation	0.801	0.502	0.64
Std. error	0.179	0.112	0.14

Using Wilcoxon match paired rank test $p < 0.05$ considered extremely Significant, changes on Pain in Group A.

Pain in Group B

	BT	AT	Difference
P value	0.0009		
Mean	2.3	0.75	1.55
Std. deviation	0.656	0.55	0.51
Std. error	0.146	0.123	0.114

Using Wilcoxon match paired rank test Pain in Group B. $p < 0.05$ considered Significant, changes on

Pain in both Groups

	Group A	Group B	Inference
P value	0.123		Significant
Mean	1.9	1.9	
Std. deviation	0.64	0.64	
Std. error	0.143	0.143	

There is highly significant difference in the Pain after treatment in the Trial group and Control group. *Panchadhatu shalaka* is **more significant in reduction of pain than Lauha shalaka.**

Tenderness in Group A

	BT	AT	Difference
P value	0.106		
Mean	2.35	0.45	1.9
Std. deviation	0.875	0.51	0.85
Std. error	0.195	0.114	0.19

Using Wilcoxon match paired rank test changes on Tenderness in Group A. $p < 0.05$ considered extremely Significant,

Tenderness in Group B

	BT	AT	Difference
--	----	----	------------

P value	0.302		
Mean	2.2	0.8	1.4
Std. deviation	0.615	0.615	0.82
Std. error	0.137	0.137	0.183

Using Wilcoxon match paired rank test
p<0.05 considered Significant, changes on

Tenderness in Group B.

Tenderness in both Groups -

	Group A	Group B	Inference
P value	0.093		Significant
Mean	1.9	1.4	
Std. deviation	0.852	0.82	
Std. error	0.19	0.183	

There is significant difference in the Tenderness after treatment in the Trial group and Control group. **Panchadhatu shalaka is more significant in reduction of pain on pressure than Lauha shalaka.**

DISCUSSION

In the people who have sedentary habit and one who have weakness of the calf muscle the pressure is immediately transferred to the heel region. When the planter fascia is tight and pulled on heel bone, the bone releases calcium to protect and for supporting. It causes the inflammation of soft tissue and pain while walking. Spur is nothing but ossification of the plantar fascia at its calcaneal end. On an X-ray, a calcaneal spur can extend forward by as much as a half inch. Management of calcaneal spur and associated conditions include exercise, custom-made orthotics, anti-inflammatory medications and local cortisone injections. If conservative treatment fails, surgery might be necessary.

Acharya Sushruta suggested Agnikarma is one of the most efficient parasurgical treatments. It can be applied in those diseases which are not cured by Aushadha, Kshara and Shastrakarma. It is also called Apunarbhava Chikitsa. It is one of the main treatment modality to decreasing the pain threshold. Following explanation may support pain relieving by Agnikarma. Agni possesses

viz. Guna Ushna, Tikshna, Sukshma, Ashukari. Here the heat pacifies Vata and increase Dhatwagni. As it is transferred via skin, might be acts as removing obstruction in the Sookshma Strotas and increases the local blood circulation, reduces the inflammation of affected site.

Rate of any metabolic activity is increased by rise in temprature It forms good newer tissue. Due to increased local metabolism, the waste products which are produced, gets excreted, which normalizes the blood circulation and releases the pressure on end nerves, resulting in reduction in intensity of pain.

Here, Panchadhatu shalaka is more efficient than Lauha shalaka. It may be due to following reason are as follows:

The components of Panchadhatu shalaka with different proportion such as, Tamra (copper) – 40% Lauha (iron) – 30% Yashada (zinc) - 10% Rajata (silver) – 10% Vanga tin) – 10% From above sense, it can be clarified as there are variations in heat capacities of each metal, The lower heat capacities take lower time to get heat of metals (red hot) and vice versa. Due to combination of metals with different heat capacities, thermal conductivities and cooling capacities, Panchdhatu shalaka can get heated earlier due to high thermal conductivity. As per law of chemistry, the lower heating temperature takes more time to reach at cooling temperature

(room temp.). So the combined effect of different cooling capacities of different metals takes longer time to reach at room temperature. It facilitates to take multiple points (*Dagdha Vranna*) of equal intensity (*Samyaka Dagdha*). The role of above qualities can help to get multiple *Agnidagdha Vrana* in short time everywhere, due to equal retention of heat. Hence, the synergetic effect can be found in *Panchadhātu shalaka*. So, it can be state as *Panchadhātu shalaka* is more effective than *Lauha shalaka*. Based on this principle the study was carried out and after completion of therapy the symptoms found to be relieved.

CONCLUSION

It is easy to learn and apply the principle of *Agnikarma* in managing different surgical conditions where surgery is not possible to treat the condition or there is great chance of relapse of disease. *Agnikarma* provides lot of options for the surgeon as it is easy to implement and no chance of recurrence.

The present clinical trial showed highly significant consequences in both groups. In *Agnikarma*, *Panchadhātu shalaka* and *Lauha shalaka* are both effective in the management of Heel pain. So both these modalities are non-pharmacological, easy to perform, cost effective and result oriented in all kind of Heel pain. But *Agnikarma* by *Panchadhātu shalaka* found most efficient than *Lauha shalaka* on the background of heat capacities, thermal conductivity and therapeutic utility. So, it can be state as *Panchadhātu shalaka* is more advisable than *Lauha shalaka*.



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ROLE OF *SHWET APARAJEETA* (*CLITORIA TERNATEA*) IN HYPOTHYROIDISM: A CONCEPTUAL STUDY

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ABSTRACT

Hypothyroidism is common disorder of thyroid gland. It is also called underactive thyroid or low thyroid hormone. Occurrence of Hypothyroidism in Overt form is 0.2% & 2% and in subclinical 3% & 6-8% in male & female respectively. In pregnant women it is found 2.5%. Hypothyroidism shows symptoms like fatigue, abnormal sensation, dry skin, cold sensitivity, poor speech, lethargy, constipation, unexplained weight gain. It can be compared with Ayurvedic *Lakshanas* like *Aangsad*, *Lomaharsha*, *Swedahani*, *Vakswaragraham*, *Agnimandya*, *Gaurav*. i.e. the common symptoms of *Kaphaj-Pandu*, *Kaphaj-Shotha*, *Udanavarta-Vyan*, *Atisthulta*, hence all these signs found in *Galgand* according to Ayurveda. The mode of action of treatment is the drug should be *Vatakaphshaman*, *Medohar*, *Deepan*, *Pachan*, *Bhedan*. Hence the drug *Shwet Aparajeeta* has all these properties. so its role in hypothyroidism is assessed conceptually.

Keywords: Hypothyroidism, *Vatakaphshamak*, *Medohar*, *Shwet Aparajeeta*.

INTRODUCTION

Thyroid disorders are the most common disorders of endocrine glands. It is estimated that about 42 million people suffer from thyroid disorders in India. In general disorders of thyroid gland are Hypothyroidism, Goitre, Iodine deficiency disorders, Hashimoto Thyroiditis and Thyroid cancer. The thyroid gland produces two related hormones T3 and T4. These hormones play a key role in cell differentiation during development and help to maintain thermogenesis and homeostasis.

Hypothyroidism is common disorder of thyroid gland. It is also called underactive thyroid or low thyroid hormone. (1) Occurrence of Hypothyroidism in Overt form is 0.2% & 2% and in

sub-clinical 3% & 6-8% in male & female respectively. (2) In pregnant women it is found 2.5%. (3)

Hypothyroidism shows symptoms like fatigue, abnormal sensation of skin, dry skin, cold sensitivity, hoarseness of speech, lethargy, constipation, unexplained weight gain. (1) It can be found in the common symptoms of *Kaphaj-Pandu*, *Kaphaj-Shotha*, *Udanavritta-Vyan*, *Atisthoulya*. (4,5,6,7)

- Sign found in hypothyroidism i.e. swelling in front of neck can be compared with signs of *Galgand* according to Ayurveda. (8)
- Looking at *Doshdushya Sanklpana* participating in hypothyroidism choice of drug can

be Vataka-phashamak, Medohar, Deepan, Pachan, Bhedan.(9,10,11)

• ShwetAparajeeta has all this properties so the topic is chosen to study the role of Shwet Aparajeeta in hypothyroidism conceptually!

MATERIALSAND METHODS

• Details of Hypothyroidism were studied from Harrison's Book of medicine, Textbook of clinical surgery by S. Das, Davidson's principle & practice of medicine from internet.

• Signs & symptoms of hypothyroidism were matched with various Vyadhi Lakshanas from ancient Ayurvedic textbooks like Charak Samhita, Sushrut Samhita, Madhav Nidan & Bhaishajya Ratnavali.

• Detail description of ShwetAparajeeta was collected from Bhavprakash Nighantu & Textbook of Dravygunvidhnyan by Jawlgekar.

• Details regarding the symptomatology was noted down under the heading Discussion.

• REVIEW OF DRUG:-

Drug Name	ShwetAparajeeta
Latin Name	Clitoria Ternatea
Family	Papilionateae
Optional Name	Shankhpushpi, Shweta Mahashweta, Girikarni
Prayojyang	Mool,,beej,parna
Rasa	Tikta ,katu,Kashay.
Virya	Sheet
Vipak	Katu
Guna	Laghu, Ruksha
Karmukata	Doshapachan, Kaphamedohar, Deepan, Pachan, Bhedan .
Doshghnta	Tridoshhar
Chemical composition	Triterpenoids, faronol, glycocides, anthocyanines and steroids.

MODE OF ACTION

Shwet Aparajeeta acts as Doshapachan and Vimlapan due to Katu, Tikt , Kashay Rasa.

It also acts as Kaphashodhan &Shothbhedan due to Tikshnguna. It has properties of Deepan,

Pachan & Kaphadushtighn due to Tikta rasa and

Dhatugat Dosha shodhan due to Laghu, Tikshna Guna.

RESULT AND OBSERVATION:-

Signs & symptoms found	Lakshanin Ayurveda	Vyadhi	Expected Chikitsa
1) Fatigue	Angsad,Aalasya, Bhrama(4), Utsahhani(7)	KaphajPandu, Atisthoulya	KatuTikshana, Dravya(9) RukshanDeepan
2)Cold sensitivity of skin	Lomharsha(4)	KaphajPandu	KatuTikshn Dravya(9)
3)Dryskin	SwedHani(6)	UdanavrittaVyan	Vatashamak

4)Horseness of voice	Vakswarghaham (4)	KaphajPandu	KatuTikshn Dravya(9)
5)Poor appetite	Agniman-dya(5),Aruchi(4),Alpagni(6),Gaurav(4)	Kaphaj Shotha, KaphajPandu, UdanavrittaVyan	Katu-Dravya,Bhedan(10), Deepan,Pachan(9)
6)Unexpained weight gain	Gourav(4) Sfiknodarlmbn(7)	KaphajPandu Atisthoulya	Vatakaphghn RukshaDee-pan,Pachan
7)Increase insize of thyroid	Guru,Sthir, SavarnaShoth	KaphajShoth(5)	Bhedan Vimlapan

DISCUSSION

As suggested by modern text mainly three kinds of treatment modalities can be used in hypothyroidism..

- 1) Stimulation of gland,
- 2) Replacement of hormone,
- 3) Regularization Of Hypothalamo–Pitutory-Thyroid axis.

By correlating the signs symptoms with *GalagandaVyadhi*(8) in Ayurveda. The treatment needed is *Bhedan, Deepan, Pachan, Vatakaphashamak, Vimlapan*. *ShwetAparajeeta* has all these properties so can be used in hypothyroidism.

Iodine taken through food is absorbed in small intestine which is converted into iodide. Again it is absorbed by thyroid gland & its oxidation takes place. The final product is again Iodine which is converted into monoiodotyrosine, then into diiodotyrosine and ultimately into triiodothyronine i.e. T3 through bio-chemical reactions.

If any abnormality arises in the above process or T3 decreases due to any reason one can treat it with the replacement of hormone. It means increase in the absorption of iodine is important. It can be explained on the basis of *AgniDeepan & Aampachan* which directly impacts on metabolism and absorption of minerals.

Hypothalamus releases TRH i.e. Thyroxin Releasing Hormone. It acts on anterior pituitary which secretes TSH which gives stimulation to thyroid gland to form T3&T4.

If this function is decreased one has to regularize hypothalamo-pitutory-thyroid axis function. *Rasayan Karma & Majjadhatu Poshan* might be needed to improve this phase. *Shwet Aparajeeta* is *Medhya, Smrutihita, Keshya, Netrahit*. So it can be used for regularization of axis as it acts on *Majjadhatu*.

In this axis the blood portal system from hypothalamus is blocked. Release of TSH is decreased from anterior pituitary. To remove the block *Shothahar, Tikshana, Deepan, Pachan Dravya* are needed. *Shwet Aparajeeta* has all the properties so it can be useful for those functions.

CONCLUSION

From above correlation & discussion we can conclude that every symptom of Hypothyroidism mentioned above can be treated with *Shwet Aparajeeta* and it is also mentioned in *Madhavidan Galaganda Adhaya*. So it can prove effective as single drug therapy in hypothyroidism.

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CONCEPTUAL STUDY OF USAH PANA

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ABSTRACT :

Our Body is constituted by *Panchamahabhuta*. Body gets nourished as well as developed by the *ahara* (diet). Therefore our body requires *panchabhautic* diet. *Jala* (Water) is called life of the living organism as any organism cannot live without water. *Usahpana* (drinking lukewarm water in early morning) is essential for healthy life. It stimulates the peristaltic movements of the GIT and removes constipation. Drinking water in early morning digests the food taken at night. *Usahpana* increases the appetite and the digestive power of GIT. Drinking lukewarm water in empty stomach promotes *vyasthapanam* and stable adolescence. It diminishes obesity, fever, pain originates from different part of body. It also diminishes the diseases produced from *Vata*, *Pitta* and *Kapha dosha*. Drinking water in empty stomach improves blood circulation, removes toxins from the body, release secretions from the digestive organs etc.

Key words: *Usahpana*, *Jala*, *Panchamahabhuta*, *Vayasthapanam*, *Usnodaka* (warm water).

INTRODUCTION: *Ayurveda* is a Ancient science of life. *Ayurveda* described the *hita* and *ahita* (wholesome and unwholesome), *Sukha* and *dukha* (happy and unhappy) life, it also described their measures¹. The life which is healthy and welfare of the society is called *hitayu* otherwise it is *ahitayu*. Similarly when the person is healthy is known as happy otherwise he will be unhappy. The equilibrium of *dhatu* (*dosa*, *dhatu* and *mala*) in qualities as well as in their actions is called *prakriti* or health and their disequilibrium is called *dukha* (disease)². In the state of health equilibrium of *dhatu* should be maintained as it is the object of *Ayurveda*³.

Our body is made from five basic elements viz. *Prthivi*, *Jala*, *Agni*, *Vayu* and *Akash* and are known as *panchamahabutas*. Our body gets nourished by the *ahara* (diet). Therefore our body requires *panchabhautic ahara*⁴.

Dosa, *dhatu* and *mala* all the body contents are composed of the *panchamahabutas*. The *Jala* (water) is life since any organism cannot live without water. It is the most important and essential part of our diet. Our body constitutes 70 % of water. It performs various functions in the body. *Jala* is constituted especially by *Jalamahabhuta*. *Jalamahabhuta* promotes the activity of *kapha dosha*. A Person drinks water as per requirement of the body for better digestive function.

Usahpana stimulates the peristaltic movement of GIT therefore it removes constipation. Drinking water in the early morning digests the food taken at night. It stimulates the digestive function. Due to proper digestion of food various secretions are released from GIT and *Usahpana* increases the appetite and maintains healthy life. Drinking lukewarm water in the early morning without taking food

prevents premature aging. Also it removes unwanted substances, toxins from the body and maintains healthy life. Water taken in empty stomach should not be very cold because cold water lowers the internal temperature of stomach and requires more time to recover. Therefore water should be lukewarm. According to *Ayurveda* drinking water in empty stomach in the early morning is *Vayasthapana*⁵.

AIMS AND OBJECTS:

- 1) To create awareness about drinking lukewarm water in early morning in empty stomach.
- 2) To promote better lifestyle.
- 3) Minimize the frequency of diseases and maintain better life.
- 4) Warm water is useful in treatment of piles. In winter season, in a situation such that a person has trouble evacuating properly, warm water would be quite helpful.
- 5) Warm water is helpful in obesity: We've seen that people who don't exercise daily gain more weight, hence we advise the use of lukewarm water for better health/ weight control.
- 6) Drinking lukewarm water is beneficial for increasing life.
- 7) While thirsty, a person may use warm water.
- 8) To study detail *Usahpana* from Ayurvedic literature.

TYPE OF STUDY: Descriptive and Fundamental.

LITERATURE REVIEW: If a person drinks eight *Pasar* (~ 2 glasses) of water before sunrise, he shall be free from disease and premature aging and live healthy for more than hundred years. Water taken just before sunrise reduces the diseases of *Vata*, *Pitta* and *Kapha dosha*. Also if a person drinks water at the end of the night diminish *Arsha* (piles), *Shoth*

(inflammation) *Grahani* (Duodenal disease), fever, *Udar* (Disease of abdomen), *jara* (premature aging), *Kushta* (leprosy, Leucoderma), *medorog* (obesity) *Mutraghata* (Retention of Urine), *Raktapitta* (bleeding from different parts of body), headache, pain in ear, throat and lumber pain etc. it also reduces the diseases related to eyes⁶.

Kosnajala (lukewarm water) diminish *kapha*, *medorog* (obesity), diseases of *vata*, reduces *ama dosha* (product from indigested food). It acts as appetizer, *Vastisodhaka* (cleans Urinary bladder) and *Pathya* (Wholesome)⁷.

Lukewarm water should be taken in the state of *amajirna* (indigestion of food), *Vistabdajirna* (indigestion of food) even though the thirst is absent. It digests the food quickly and reduces the *kapha* and *vata dosha*⁸.

Warm water increases appetite and digestive power, useful for better throat, it is *laghu* (light), *usana* (hot), *vastisodhaka* (cleans urinary bladder). Also it reduces *adhamana* (flatulence), *vata* and *kapha dosha* and *ama*⁹.

At early morning intake of water is known as *Usahpana*. It activates the peristaltic movements, thus helps in evacuation and relieves constipation. It also helps in the secretion of gastric Juice and reduces anorexia. If no food material is taken before taking of water, this is called *niranna* (without food grains). Lukewarm water enhances *Vayasthapana*¹⁰.

Those *dravya* (diet or drug) prevents and prolong aging and stable adolescence, maintains health; protect premature aging that is called *Vayasthapana*¹¹.

At early morning taking *Sita jala* (cold water), Milk, Honey and *Ghrita*

separately or any two or any three together are *Vayasthapana*¹².

DISCUSSION: *Jala* is 'life' as any organism cannot live without *Jala*. It is the most important and essential part for body. Our body constitutes 70% of water. It performs various functions in the body. In the state of health equilibrium of dosha, dhatu and mala should be maintained. To maintain the equilibrium proper digestion of food is essential. For proper digestion 'Jala' is essential.

Characteristics of Jala: *Jala* act as *sramahara* (Relief from Fatigue) *Klantisaka* (Relief from fatigue) *Murchha* (relief from unconsciousness), *Trsnahara* (Relief from thirst), *Vamana* (Omitting) and *Vibandhahara* (Relief from constipation) *Balakaraka* (increase in strength), *Nidrahara* (Relief from sleepiness), *Triptidayaka* (satisfactory), *Ajirnahara* (Beneficial in indigestion), *hitakaraka* for *Hridaya* (Beneficial for Heart), *Ayukta rasa* (Tasteless), always *hitakaraka* (always wholesome), *Laghu* (light), *Sita* (Cold), *Swachha* (Clear), productive of all tastes, like *amrita* and life saving¹³.

Usahpana stimulate the peristaltic movement of the GIT therefore it removes constipation. Drinking lukewarm water in empty stomach in the morning digests the food taken at night. It stimulates the digestive organs for proper function, due to *usahpana* various digestive secretions are released from GIT. According to Ayurvedic literature mentioned that a person should take *usahpana* eight *pasara* (~ 2 glasses).

6 ways drinking warm water can heat your body:

i) Cleanses digestion:- A warm cup of water in the morning can help cleans our body by flushing out toxins. Water and

other liquids help break down the food in your stomach and keep the digestive system on track. Warm water will help break down foods even faster making the easier for you to digest. Drinking cold water during or after meals actually harden the oil in consumed foods and therefore create a fat deposit in the intestine.

ii) Aids constipation:- Drinking warm water in the morning on an empty stomach can help improve bowel movements and aid constipation while breaking down foods as they smoothly pass through the intestine. Stimulating the bowels will help return your body back to normal functioning.

iii) Alleviates pain:- can help alleviate pain from menstruation to headache. The heat from warm water is known as to have a calming and soothing effect on the abdominal muscles, which can help provide instant relief cramps and muscle spasms.

iv) Sheds excess pounds:- help with weight loss. Warm water increases body temperature, which therefore increases the metabolic rate. An increase in metabolic rate allows the body to burn more calories through the route. It can also help the GIT and kidneys to function even better.

v) Improves blood circulation:- The fat deposits in the body are eliminated along with accumulating deposits in the nervous system when you drinking a glass of warm water. This flashes out the toxins that are circulating through the body and then enhances blood circulation. Making sure the muscles are relaxed will eliminate poor circulation and blood flow.

vi) Halts premature aging: - premature aging can be prevented by drinking warm water. The presence of toxins in the body can lead to aging faster but warm water can help cleanse the body from those

toxins while repairing skin cells to increase elasticity¹⁴.

CONCLUSION: After the study about *Usahpana* we came to conclusion that *Usahpana* is beneficial to maintain the healthy life and proper digestion.

Drinking lukewarm water early morning is beneficial in diseases like *mutraghata*, *raktapitta*, headache, pain of ear, throat and lumber etc. also it is useful in painful menstruation, *udararoga*, skin diseases, piles etc it also useful in constipation, *medoroga* (obesity) etc. Lukewarm water is useful to boost up age and stabilize adolescence. Lukewarm water improves blood circulation, it act as appetizer, removes toxins etc. Lukewarm water is useful to maintain good health.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

“Effect Of Dadimadi Ghrita In Pandu”[Anaemia]

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Abstract:

Ayurveda is defined as science of life. Now a days, due to sedentary life style people are moving faster and faster, chasing money in order to fulfil day to day needs to live a better life. Fast and spicy food is in and a well balanced diet full of nutrients and antioxidant is out.

The Pandu means a white colour mixed with yellowish thing. Pandu is such a disease in which there is vivarna/change in colour of the body. Pandu/pallor of skin is first observed on the most superficial portion of the body that is skin, eyes, palate, tongue, nose, lips, palms, soles, nails, focus also in urine. Pandu is pitta pradhan tridoshaj vyadhi in which ras and rakta mainly affected, due to malnutrition, deficiency diseases are increasing in the world.

According to W.H.O., over one third of the world population suffers from anaemia. Prevalence of anaemia in India is high because of low dietary intake, poor availability of iron. Anaemia affects a large number of women and children in developing countries.

Aim And Objective: To study the efficacy of Dadimadi ghrita for treating pandu.

Materials And Methods:Total 35 subjects suffering from pandu were selected. Dadimadi ghrita with dosage of 10 ml was administered orally, at morning empty stomach with a cup of warm water for 30 days.this was open labelled randomized controlled clinical trial.

Results:Clinical observations in general symptoms of pandu have revealed that % of relief out of 35 subjects, 16 subject have up to 51 to 75 % relief followed by 8 subjects up to 76-100% and then 11 subjects up to 26-50 % .About Hb%, there was difference of 1gm%in 15(42.87%),up to 1.5 gm% in 10(28.56%) ,up to 0.5 gm % in 5(14.28%),more than 2 gm% in 3(8.57%).

CONCLUSION: This study has revealed that Dadimadi ghrita has good effect on pandu. As well this drug has illustrated good effect on agni (digestive power) and nourishment of whole body.

Key words: Dadimadi ghrita, pandu.**Key message:** oral administration of Dadimadi ghrita is effective to cure pandu.

Introduction:

Ayurveda is defined as science of life. Now a days, due to sedentary life style people are moving faster and faster, chasing money in order to fulfil day to day needs to live a better life. Fast and spicy food is in and a well balanced diet full of nutrients and antioxidant is out. Pandu is pitta pradhan tridoshaj vyadhi in which ras and rakta mainly

affected, due to malnutrition, deficiency diseases are increasing in the world. Among these diseases one of the most common and wide spread diseases is (Pandu) anaemia.

The disease in which pandu bhava is predominant is called as panduroga. The disease in which the skin colour changes to pandu, haridra, harita varna and in all of these colours pandutwa is predominant. Hence called as panduroga. The sign and symptoms of pandu include pandutwa, daurbalya, bhrama, tandra, agnimandya, aarohan, aayas and hritspanan.

The word "pandu" is described as white, yellowish white etc. Pandu means a white colour mixed with yellowish thing according to Amarkosha. Vachaspatya refers pandu as mixture of white and yellow colour which resembles with the pollen grains of ketki flower. Pandu is such diseases in which there is vivarna/change in colour of the body. Pandu/pallor of skin is 1st observed on the most superficial portion of body that is skin and also observed in eyes, palate, tongue, nose, lips, palms, soles, nails, fecus also in urine. Panduroga is stated to be afflicted with *raktalpata*, *medalpata*, *nissarata*, *vivarnata*, *shithilandriya*. In pandu all the dhatus become nissar. Due to this there is oja kshaya

The Samprati of panduroga is explained in detail by Acharya Charaka as follows- Due to sevena of hetu which is mention earlier there is increase in sadhaka pitta in hridaya. This pitta is distributed all over the body through dasa dhamani by vyana vayu. This pitta resides in between twaka and mamsa and vitiates kapha, vata, rakta, twacha and mamsa and produces pandu, haridra and harita varna of the skin.

Samprapati Ghataka

Dosha:	Pittapradhana Tridosha.
Dushya:	Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra and Oja.
Strotasa:	Rasavaha and Raktavaha mainly.
Udbhavasthana:	Aamashaya, Hridaya.
Sanchara Sthana:	Whole body through dasa dhamani.
Adhishtana:	Twak and Mamsa.
Vyakti Sthana:	Twak, Netra, Nakha.
Rogamarga:	Bahya Rogamarga.

Charaka has recommended dadimadi ghrita in animea heart disease, splenomegaly, asthma, cough, diseases originated from vitiation of vata and kapha. It increases digestive power, diseases of vata vitiation as well as it is recommended for postnatal care and infertility by charaka.

Aims And Objectives:

To study the efficacy of dadimadi ghrita for treating pandu (anaemia).

Methods And Materials:

Study design: Open labelled randomized controlled clinical trial.

Selection of patients: Subjects suffering from anaemia were selected, irrespective of caste, religion, socio economic strata.

Sampling: Simple random sampling technique using lottery method.

Sample size: 35

Study setting: The study was carried out at C.S.M.S.S AYURVED HOSPITAL Kanchanwadi Aurangabad. 1 February 2016-15 May 2016.

Ethical consideration: Informed written consent obtained from all subjects. The approval has been taken from institutional ethics committee.

Dadimadi Ghrita: Ingredients of this recipe has described as follows in classics of ayurveda

Sr.No	Ingredient	Latin Name	Parts used	Properties
1]	Dadima	<i>Punica granatum</i>	Fruits	Hridya [nice taste] Raktavardhaka [Haematinic]
2]	Dhanyaka	<i>Coriandrum sativum</i>	Seeds	Dipaka [Appetizer] Pachaka [Carminative]
3]	Chitraka	<i>Plumbago zeylanica</i>	Roots	Aagnimandyahara [cures weak digestion] Dipana [Appetizer]
4]	Shunthi	<i>Zingiber Officinalis</i>	Roots	Amapachaka [digest amam]
5]	Pippali	<i>Piper longum</i>	Fruits	Raktavardhaka [Haematinic]
6]	Ghrita	<i>Cow ghee</i>		

Method of preparation:

- 1] Roughly crush –Dhanyaka, chitraka, shunthi, pippli- each 12.5 gms was soaked in little quantity of water for 8 hours.
- 2] Then 800 ml of water is added to above mixture and boiled on low flame till it remained 1/4th of total quantity, e. 200ml- thus kvatha (decoction) of four ingredients has made as its not available fresh.
- 3] About 50 ml dadima fruit svarasa (juice) was prepared as it is available fresh.
- 4] Plain cow ghee about 250 grams taken in a pot, added with above decoction and juice and boiled on low flame (madhyampaka) till it remained 250 grams of medicated ghee only.

Inclusion criteria:

- A] Subject suffering from following group of symptoms were included for study-
- 1] Nakha-netra-tvak – pandutva (Faintness in colour of nails, eyes and skin)
 - 2] Pindikodveshantana (Pain in calf muscles)
 - 3] Hritspanda (Increases heart rate)
 - 4] Akshikutashotha (Swelling around eyes)
 - 5] Klama (Fatigue)
 - 6] Arohanaayas (Exertional dyspnoea)
- B] Subject having haemoglobin in between 6gm % to 11 gm%

Exclusion criteria:

A] The patient suffering from following condition were excluded from study-

1. Liver cirrhosis
2. Oedema
3. Worms
4. Bleeding haemorrhoids
5. Tuberculosis

patients with heart disease, diabetes mellitus and hypertension

Sample size: 35 complete cases

Safety: Monitoring of adverse events and clinical examination.

Intervention:

Drugs: Dadimadi ghrita

Dose: 10ml

Time: Morning empty stomach before 8.00 A.M.

Anupana; A cup of warm water

Duration: 30 days

Follow up: Follow up visit after 30 days

Assessment criteria:

A. Group of symptoms –Nakha-netra-tvak-pandutva (faintness in colour of nails, eyes and skin), pindikodveshatana (pain in calf muscles), hritspanda (increased heart rate) akshikutashotha (swelling around eyes) and klama (fatigue) Aarohanaayas-exertional dyspnoea MRC Scale were assessed before and after study treatment with following gradations –

1) panduta (pallor)

Grade0-no pallor

Grade1-palor in conjunctiva

Grade2-palor in conjunctiva &nails

Grade 3- pallor in whole body.

2) Sharma (fatigue)

Grade 0- No fatigue.

Grade1- Not affecting his daily activities.

Grade2- Affecting his daily activities.

Grade3- Fatigue without any activity.

3) Akshikutashotha (Periorbital oedema)

Grade0-No periorbital oedema

Grade1- Only after rising from bed in morning.

Grade2- Persistent whole day.

Grade3-Disturbance while opening eyes.

4)Aarohanaayas(Exertional dyspnoea MRC scale)

Grade0-No dyspnoea on level/uphill.

Grade1-Dyspnoea on walking on level/uphill

Grade2-Walk slower than persons of same age.

Grade3-stops after walking 100 yard.

Severity index of anaemia –normal (all symptoms disappear) grade 0

+ - low grade (from 5 symptoms 3 disappear) grade 1

++ - moderate (2 symptoms disappear) grade 2

+++ - severe (all 5 present) grade 3

B)After giving treatment weekly record was kept.

Observation:

Out of subjects,maximum number of subjects was found in having nakha,netra,twak-pandutva(faintness in colour of nails skin,eyes) followed by hritspanda (increased heart rate))and akshikutashotha (swelling around eyes),klama (fatigue)and pindikodveshtana(pain in calf muscles).

Theywere 35(100%),30(85.70%),25(71.44%),34(97.15%) respectively.

Effect on increase in haemoglobin percentage

Difference in Hb%	No. of subjects	%
No change	1	2.87
Up to 0.5gm%	5	14.28
Up to 1gm%	15	42.28
Up to 1.5gm%	10	28.57
Up to2 gm %	3	8.57
>2 gm %	1	2.86
Total	35	

Regarding this study, effect on increase in haemoglobin(up to 1gm%) was recorded in maximum number of subjects,i.e.15.It was followed by group up to 1.5gm%in 5 subjects.

Effect on haemoglobin percentage

Decrease or increase in Hb%	No. of subjects	%
Decrease	2	5.81
Increase	32	91.43
No change	1	2.86

Out of total study population, maximum number of subjects(32)was found of increase in Hb %,i.e.91.43%.Decrease in Hb % was also recorded in few subjects(02),i.e.5.81% and no change was recorded in subject,i.e.2.86%.

Total Effect Of Dadimadi Ghrita On Pandu

% Relief	No. of subjects	%
0-25%	00	00
26-50%	11	31.43
51-75%	16	45.71
76-100%	8	22.86

Total effect of treatment on pandu according to percentage of relief, out of 35 subjects, 16 subjects have up to 51-75% relief followed by 8 subjects upto 76-100% and then 11 subjects up to 26-50%.

Data analysis: statistical evaluation of the data obtained was done using means, standard deviation, percentage, mean difference. Data analysis was done by using SPSS 17.0 statistical software. We have used t test to find out significance before study treatment and after study treatment.

Discussion:

In Ayurveda Acharya Charaka in his classical treatises, under the heading 'pandu' as mentioned a group of symptoms which very closely resembles with the signs and symptoms of Anemia. According to Ayurvedic texts pandu is defined as Rasapradoshaja vyadhi, which not only impairs and vitiates Rasa dhatu but also adversely affects all rest of the dhatus in a sequential manner upto shukra dhatu. The important symptoms mentioned by Charaka are nihsar, shithilendriya, varna, Bala and oja kshaya, which directly affect physical and mental capabilities of an individual.

In modern medicine, there are adverse effects of medication i.e. nausea, vomiting, epigastric discomfort, and diarrhoea. Considering the above facts and lacuna the present study entitled "Effect of Dadimadi ghrita on pandu."

Pandu chikitsa-In Ayurveda, three general principles of treatment have been mentioned by Atreya in Charaka Samhita Sutra sthana. They are Daivayapashraya, Yuktivyapashraya chikitsa which includes the following:

- 1) Nidan parivarjana
- 2) Snehana and Swedana
- 3) Shodhana
- 4) Shamana

The whole study was performed in only one group. Obtaining the effect of therapies. All the clinical signs and symptoms were assessed on the basis of scoring given to them before and after treatment. The general observation pertaining to age, sex, occupation etc of 35 patients of pandu.

The critical analysis of result based on Ayurvedic fundamentals and scientific thoughts are presented under this title.

Conclulsion:

- This study has revealed that Dadimadi grita has good effect on pandu. As wel this drug has illustrated good effect on agni (digestive power) and nourishment of whole body.

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A CONCEPT OF VIRECHANA KARMA IN SHARAD RUTU

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ABSTRACT

In Ayurveda six *Rutu* (seasons) *Varsha, Sharad, Hemant, Shishir, Vasant, Grishma* are described. These seasons comes under two *Kala Visargkala & Adankala*. Out of which *Sharad* comes under *Visargkala* after *Varsha Rutu*. Body gets used to cold in *Varsha Rutu* due to rain; also *Pitta Chaya* occurs in this *Rutu*. Then in *Sharad Rutu* this cold habituated body gets exposed to intense hot sunrays, this hot property causes *Prakopa* of *Pitta Dosha*. To prevent *Pitta Prakopa, Pittaj Vikara* & to maintain health “*Virechana Karma*” is advised in *Sharad Rutu*. It is a *Panchakarma* procedure mainly advised for *Pitta Dosha*. Ayurveda promotes prevention better than cure. So, if done in *Sharad Rutu Virechana Karma* plays such role of prevention & cure in *Pittaprakop* and *Pittaj Vikara*. **Aim-** To study the concept of *Virechana Karma* in *Sharad Rutu*. **Objectives-** To study *Rutu* variation, *Sharad Rutucharya* & concept of *Virechana Karma* in *Sharad Rutu* considering *Pitta Dosha Prakop*.

Key-words: *Sharad Rutu, Pitta Prakop, Virechana*.

INTRODUCTION

Ayurveda the life science believes and promotes prevention than cure by maintaining healthy state of various body elements. In this context classics have explained how to lead a healthy lifestyle in the form of Daily regimen (*Dincharya*) & Seasonal regimen (*Rutucharya*).

Varsha, Sharad, Hemant, Shishira, Vasant, Grishma these six seasons are explained under two types of *Kala, Adankala & Visargkala*. *Varsha, Sharad, Hemant* comes under *Visargkala* and remaining seasons comes under *Adankala*. [1] There is certain cold temperature in *Varsha Rutu* due to rain.

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Pitta Chaya (accumulation) occurs in body naturally also body gets used to this low temperature. But in *Sharad Rutu* rainfall stops and sky becomes clearer. Due to this, sunrays reaches earth more intensely and climate becomes hotter (*Ushna*). This sudden exposure of body to intense hot sunrays causes aggravation (*Prakopa*) of *Pitta* which was accumulated in *Varsha Rutu*. [2] This aggravation of *Pitta* can lead to *Pittaj Vikara* and can worsen already present *Pittaj Vikara*.

To cope up with this *Pitta Prakopa* in detail regime for *Sharad Rutu* regarding diet, lifestyle & *Shodhana* have been explained in our treatise. Intake of *Pitta* pacifying food and drinks are advised. Also *Tikta Ghrit* (Ghee medicated with bitter drugs), *Virechana* & *Raktmokshan* are said to be done in purification therapy.[2] Out of which *Virechana* is main purification therapy in *Sharad* as it is most significant in *Pitta Dosha*. [3]

Sushruta have given a beautiful example to establish significance of *Virechana Karma* in *Pitta*, “if water is drained from a particular water source then aquatic plants & animals of that source dies, likewise if the *Pitta Dosha Shodhana* is done with *Virechana* then all *Pittaj Vikara* gets vanished.”[4] So in the present study concept of *Virechana Karma* in *Sharad Rutu* is studied.

AIM- To study the concept of *Virechana Karma* in *Sharad Rutu*.

OBJECTIVES-

1. To study *Rutu* variation in *Rutucharya*.
2. To study *Sharad Rutucharya* in detail.
3. To study concept of *Virechana Karma* in *Sharad Rutu* considering *Pitta Dosha Prakop*.

RUTU VARIATION-

A year is called as *Savantsar* in Ayurveda. Each year is made up of 12 months and 6 seasons. Each season is of two months. These six seasons i.e.

Varsha, Sharad, Hemant, Shishir, Vasant, Grishma are divided in two groups *Adankala/Uttarayan & Visargkala/Dakshinayan*. [5]

Adanakala- Shishir, Vasant, Grishma comes under *Adankala* sequentially. During the period of *Adana*, the sun receiving the unctuous portion of nature, and the sharp and rough wind dries it up in *Shisira, Vasanta* and *Grishma* in progressive order by increasing the *Rasa Tikta, Kashaya* and *Katu*. Having roughness causes debility in human beings. [6]

Visargakala-Varsha, Sharad, Hemant comes under *Visargakala* sequentially. During this period intensity of sun is lowered by clouds, winds and rains, the moon is having more strength and the temperature of nature is cooled down by rain; the *Amla, Lavana* and *Madhura* increase in progressive order with consequent promotion of strength in human beings. [6]

Table no. 1 Seasons and their Indian and English months. [7]

SR.NO.	SEASONS	INDIAN MONTHS	ENGLISH MONTHS
1	<i>Shishira rutu</i> (cold/dewy season)	<i>Magha-Phalguna</i>	Mid Jan to Mid March
2	<i>Vasanta rutu</i> (spring season)	<i>Chaitra- Vaishakha</i>	Mid March to Mid May
3	<i>Grishma rutu</i> (summer season)	<i>Jyestha-Ashadha</i>	Mid May to Mid July
4	<i>Varsha rutu</i> (rainy season)	<i>Shravana-Bhadrapada</i>	Mid July to Mid Sept.
5	<i>Sharad rutu</i> (autumn season)	<i>Ashwin-Kartika</i>	Mid Sep. to Mid Nov.
6	<i>Hemant rutu</i> (winter season)	<i>Margshisha-Pausha</i>	Mid Nov. to Mid Jan.

These seasonal changes affects body & body humours. *Tridosha* i.e. *Vata, Pitta, Kapha* goes from accumulation (*Chaya*), Aggravation

(*Prakopa*), and Pacification (*Prasham*) with respect to change in Seasons, Wind, Temperature, *Rasa, Bala* etc.

Table no. 2 Chaya, Prakopa, Prashama of Dosha according to seasons. [8]

DOSHA	CHAYA	PRAKOPA	PRASHAMA
<i>Vata</i>	<i>Grishma</i>	<i>Varsha</i>	<i>Sharad</i>
<i>Pitta</i>	<i>Varsha</i>	<i>Sharad</i>	<i>Hemant</i>
<i>Kapha</i>	<i>Hemant</i>	<i>Vasant</i>	<i>Grishma</i>

SHARAD RUTUCHARYA (Regimen during autumn) [9]

Pitta Dosha Aggravation- In persons who have become accustomed to the cold of *Varsha* (Rainy season), getting exposed suddenly to the warm rays of the sun, the *Pitta*, which has undergone increase in their bodies during *Varsha*, becomes

greatly aggravated during *Sharad* (Autumn). In order to get over it, *Tikta ghrita, Virechana & Raktmokshana* should be done.

Diet- When hungry the person should take food which is of Sweet (*Madhur*), Bitter (*Tikta*) & astringent (*Kashaya*) in taste, and easily digestible such as *Shali* (rice), *Mudga* (green-gram),

Sita (sugar), Dhatri (Amalaki), Patol, Madhu (honey), and meat of dessert animals (*Jangal Mans*). *Hamsodaka* should be advised to drink.

Other changes in lifestyle- Evenings should be spent on terraces of houses which are white, anointing the body with the paste of *Chandana*, *Ushira* & *Karpura*, wearing garlands of pearls and shining dress and enjoying the moonlight.

Avoid- Exposure to mist, indulgence in alkaline substances (*Tikshna Kshara*), heavy meals, use of curd, oils, *Vasa* (muscle-fat), exposure to sunlight, strong liquors, sleeping at daytime and the eastern breeze should be avoided.

PITTA DOSHA & VIRECHANA-

Virechana is the best therapy in *Pitta* elimination. [10]

It is regarded as the most important one amongst all therapies for *Pitta* by physician. Because, from very start on entering into *Amshaya* it extracts the entire pathogenic root of *Pitta Dosha* and when it is overcome, the *Paittika* manifestations in the body get pacified like the fire chamber which becomes cold when the fire is removed. [11]

This evacuative therapy eliminates aggravated *Dosha*, excreta, alleviates diseases, improves strength and complexion and if administered properly, endows the person with a long life. [12] *Virechana* sharpens memory, increases acuity of organs, energy, and stability of all *Dhatu*, *Agni* and delays ageing. [13]

Sushruta says "if water is drained from a particular water source then aquatic plants & animals of that source dies, likewise if the *Pitta Dosha Shodhana* is done with *Virechana* then all *Pittaj Vikara* gets vanished." [4]

DISCUSSION

Accumulation of *Pitta* in *Varsha Rutu* occurs due to *Amla Vipaka* of food & medicines that occur naturally in this season. *Pitta* does not reach the level of aggravation because of external cold due to rain. *Pitta* accumulation occurs when internal qualities like *Tikshna* acts together with external qualities like *Sheeta*. When these *Tikshna* and *Sheeta* qualities suddenly act with the *Ushna* quality in *Sharad Rutu*, aggravation of *Pitta Dosha* is seen. [14] Due to this aggravation there are

higher chances of getting diseases related to *Pitta Dosha Prakopa*. Such as burning sensation, temperature, perspiration, suppuration, sloughing, fainting, gangrenes, moisture, intoxication, prostrations, sore or acrid eructation etc. [14,15]

Virechana therapy is recommended in Ayurveda for treatment of *Pitta*. It not only eliminates *Pitta* but also acts on *Kapha* & *Vata Dosha*. Mild purgation in fact is recommended in *Vata Chikitsa Upkrama* in *Ashtanghruday sutrasthan*. Thus *Virechana* acts on *Tridosha*. But as it is most significant purification treatment for *Pitta Dosha* it is recommended in *Sharad Rutu* due to aggravation of *Pitta* during this period. It should be done in healthy individuals for maintaining health and also in patients suffering from diseases in which *Virechana Karma* is indicated.

The clinical research article similar to this concept was published by Ravish SN, Mallika KJ under the title "Role of *Virechana* in *Sharad Rutu* for prevention of *Pitta Prakop Janya Vikara*" at JAHM in 2015, conclusion of this study was, *Sharad Rutu* is the time for *Pitta Prakopa* and this was evidenced by the symptoms dominantly seen during survey. Common complaints during this season are stomatitis, urticaria, gastritis, psoriasis, allergic dermatitis and acne. These maybe newly seen or may aggravate in this season. Many of the classical symptoms explained under *Pitta Prakopa* are also evidenced in this season. *Virechana* has positive role of getting rid of this *Prakopa* in *Sharad Rutu*. [14]

This concept needs to be studied clinically in various aspects like in healthy persons, Particular *Pittaj Vikara*. Age wise results of *Virechana* in *Sharada* can also be studied to prove this concept of *Virechana Karma* in *Sharad Rutu*.

CONCLUSION

Sharad Rutu is a time for *Pitta* aggravation due to seasonal changes. This can lead to many *Pittaj Vikara* in a person and can aggravate already present *Paittika* diseases. So in context to lead a healthy life even in these seasonal changes *Virechana Karma* should be performed in *Sharad Rutu* as advised in *Rutucharya*. This evacuative therapy eliminates aggravated *Dosha*, excreta, alleviates diseases, improves strength and

complexion and if administered properly, endows the person with a long life. *Virechana* sharpens memory, increases aquity of organs, energy, and stability of all *Dhatu*, *Agni* and delays ageing. *Virechana* is a most significant treatment to deal with this *Pitta Prakopa* in *Sharad Rutu*.

Acknowledgement-

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Importance of Agrya aushadhi

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Abstract:

Ayurveda is the science of life. Ayurveda is perfect blend of philosophy and science. It balances all the components like physical, mental and spiritual factor. Now days Ayurveda is becoming more and more acceptable globally because of its eco friendly, cost effective, less side effects and holistic approach.

Ayurveda's main aim is to prevent the disease and maintain the health. Bruhatryee includes Agrya aushadhi to prevent the disease and maintain the health. CH.SU 25/40 includes 152 Agrya aushadhi, A.H.U.40 /55 Agrya aushadhi and In A.S.Su.13 Agryasangraha adhaya are described.

All Agrya aushadhi are based on its own potential or qualities like Rasa, Guna, Viryadi and the chemical properties. In some context for one disease a single drug is mentioned or a single drug mentioned for more than one disease. Agrya aushadhi are cost effective, economical, easy to use and safe. Agrya aushadhi are most potent drugs of that particular disease. In Shatkriyakaal Agrya aushadhis are effective in Sthana Samshraya Avastha.

Key words: Agrya aushadhi, CH.SU 25, A.H.U 40, A.S.Su.13.

Introduction:-

In Ayurveda 'Ekal dravya chikitsa' is having more importance. The main motto of Ayurveda is to maintain the health of healthy person and destroy the disease from its root. When 'Yukti and Aap praman' is used tactfully in Dravya yojana only then motto of Ayurveda will be fulfilled.

Ayurveda promotes preventive methods. Bruhatrayee includes some Agrya aushadhi which are having effect on health factors. Charak samhita su.25 includes the 152 Agrya aushadhi, Ashtang Hridayam U.40 includes 55 Agrya aushadhi. The Agrya aushadhi in preventive aspect like "Kaalbhajan- Aarogyakar", "Vishad-Rogvardhak."

Hetu pratyani, Vyadhi pratyani and Ubhaya pratyani chikitsa are the main therapeutic measures, commonly existing in practice. In Agrya aushadhi all these chikitsa are mentioned for each and every diseases. The Agrya aushadhi is the discussion between Athreya Punarvasu and his students (Shishya).

All the Agrya aushadhi based on its own potential or qualities. In some context for a single disease a single drug is mentioned or a single drug mentioned for more than one disease.

e.g. -Vidang –Krimighna, Musta-Dipan, Pachan, Sangrahaak

The word *Agrya* used to show the efficacy of *dravya*. Some *Agrya dravya* described to cure diseases or maintain the *swasthya*(health). On the other hand some *Agrya dravya* are causative factors (*Hetu*) for diseases or unwell begin.

In the *Agrya aushadhi* few are *Aahar*(food) related facts and few about *Vihar* (lifestyle) related facts mentioned.

e.g.-*Upwas (fasting) – Jwarahar(Dec,fever)*

kutaj - Raktarsha

Laja - Chardighra

These all *Agrya aushadhi* are the most potent drugs of that particular disease. In *Shatkriyakaal* *Agrya aushadhi* are beneficial in *Sthanasamshraya*.

The *Agrya aushadhi* are cost effective, economical and safe.

The *Agrya aushadhi* indicated in *Ayurved* classical are economical easily available, easy to use.

- The *Agrya aushadhi* is also used as the first aid at home.
e.g.- *Jal- Aashwasanprad, Upwas-Jwarahar, Sura- Shramharanaam*
Lavan-Aanna ruchikar, Amla-Hridaya, Kshir-Sivaniya,
Mahish kshir-Nidrakar, Ras-Prinanaam, Mansa-Bruhaniya
- A single drug mentioned for single disease.
e.g.-*Vidang- Krimighna, Laja-Chardighra*
Shirish-Vishaghna, Vrusha(vasa)- Raktapitta prashmam
Khadir-Kusthaghna, Kantakarika- Kaasaghna,
Aamalak-Vayahsthapan, Laksha- Sadya Kshataghna.
- In some context a single drug mentioned for more than one disease.
e.g.-
 - *Erandmool –Vrushya, Vathar*
 - *Bilwa –Malsangrahak, Agnidipak, VKshamak*
 - *Pipalimool-Dipaniya, Pachniya, Aanahprashaman*
 - *Chitrakmool-Dipaniya, Pachniya, Gudshool, Shoth, Arshohar*
 - *Pushkarmool-Hikka, Shawas, Kas, Parshwashoolhar*
 - *Musta-Sangrahak, Dipaniya, Pachniya*
 - *Udichya-Nirvapniya, Dipaniya, Pachniya, Chardi, Aatisaarhar*
 - *Katvang-Sangrehik, Pachniya, Dipaniya*
- These all *Agrya-aushadhi* are the most potent drugs of that particular disease.
e.g.-*Mahish-kshir:-Madhur, Guru* more than cow milk, *Snigdha, Sheet, Abhishyandi.*
 - All *Gundharma* prone to increase *Nidra*.
 - Hence, *Mahish kshir* is *Nidrakar* in all aspect.
 - Acc. to modern *Mahish kshir* is having Tryptophan.
 - Tryptophan converted into sleep inducing hormones serotonin and melatonin in human body. So, it proves *Mahish-Kshir* is having efficacy in *Anidra*.

- The *Agrya-aushadhi* in preventive aspect like-
 - *Kalbhojan-Aarogyakar,*
 - *Anirdeshkaritva- Arishtkar*
 - *Vishad-Rogvardhak,*
 - *Laulya(selfish)-Kleshkarak*
 - *Sarva rasa abhyas-Baalkar,*
 - *Jangaldesh-Anarogyaikarak*
 - *Ekras abhyas- Daurbalyakar,*
 - *Atisahas-Prananashak.*
- In *Agrya-aushadhi Agrya dravyas* of *Panchkarma* also mentioned.
e.g.-
 - *Madanphaal- Vaman,Aasthapan,Anuvasanopayogi*
 - *Trivritta-Sukhvirechan*
 - *Aaragvadha-Mruduvirechan*
 - *Snuhikshir-Tikshanavirechan*
 - *Apamarga-Shirovirechan*
- In some context *Dravyas* are mentioned for *Doshas*
e.g.-
 - *Madhu-Kapha,Pitta Prashaman,*
 - *Masha and Avikshir- pittashleshmakarak*
 - *Ghrita-Vaat,Pitta Prashaman*
 - *Taila-Vaat,Kapha Prashaman*
 - *Rasna-Vaathar,*
 - *Jambu-Vaatkarak*
 - *Kulatha-Aamlapittakarak*
- So as in some context the *Panchkarma* procedures are described as *Agrya* for *Dosha*-
e.g.-
 - *Vaman-Kaphahaar*
 - *Virechan-Pittahaar*
 - *Basti-Vaathaar*
- The *Ashtang sangraha* gives us some other precious *Agraya dravya*
e.g.-
 - *Ayurved – Amrutsaman*
 - *Sadvachan – Anushtheya*
 - *Tadvidya Sambhasha –Budhivardhak*
 - *Druhtakarmata – Nishanshaykarak*
 - *Himalaya-Aushadhi bhumi(land of medicine)*
 - *Bramhacharya-Aayshyakarak*

DISCUSSION:-

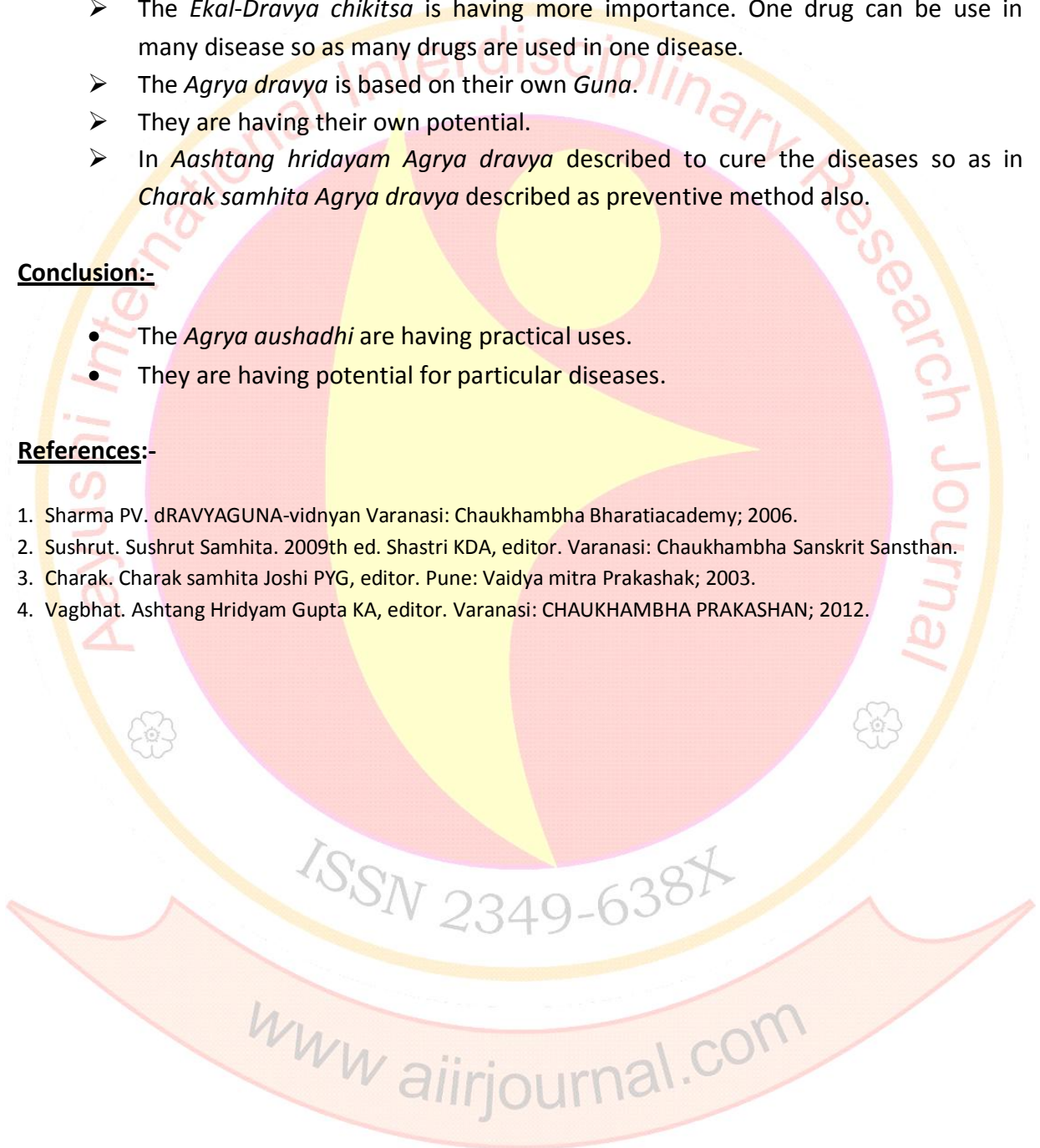
- *Agrya-aushadhis* are most potential drugs of that particular disease.
- These *dravya* are clinically proved by *Acharyas*.
- In *Ayurveda* “*Aaptodesh*” is used. So, these *Agrya-dravyas* are use in treatment.
- The *Ekal-Dravya chikitsa* is having more importance. One drug can be use in many disease so as many drugs are used in one disease.
- The *Agrya dravya* is based on their own *Guna*.
- They are having their own potential.
- In *Aashtang hridayam Agrya dravya* described to cure the diseases so as in *Charak samhita Agrya dravya* described as preventive method also.

Conclusion:-

- The *Agrya aushadhi* are having practical uses.
- They are having potential for particular diseases.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Literary review of Vacha and Yavani Churna (Pratimarsha Nasya) in the management of Pratishyaya (Rhinitis)

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Abstract

Different morphological form of Nasya like Tila , Grita, Churna and Avpeeda Nasya are commonly used as nasal drugs for the management of Rhinological disorder in Ayurveda and they distinctly behave differently in the nasal cavity when introduce .Powder form of nasal administered Dry i.e. Vacha and Yavani Churna (Pratimarsha Nasya) be most effective in improvement in Rhinitis. Ayurvedic texts and fundamental of Ayurvedic treatment were deemed respected in every sense in the individual endogenous various morphological form of Nasya .In this study try to elaborate the mechanism of action and literary review of Vacha and Yavani Churna (Pratimarsha Nasya) in Pratishyaya(Rhinitis).

Introduction

Panchakarma therapy is beneficial the Purvroop and Roop of Nija Rogas becomes visible¹. Shodhan is appropriate for person those posses good strength, mandagni, severity of disease².

The panchakarma therapy is not only for diseased person it can also be administrated to a normal person to prevent diseases and keep his body healthy. Therefore, it is an important therapy for maintaining the health of individual and also regulates imbalance dosha to cure disease.

Hence, In our Ayurvedic classics, Charak, Sushrut, Vagabhat ,(Brahatraee) explains importance of Panchakarma in their Samhita. There are five types of panchkarma .Vamana, Virechan, Basti, Nasya, Raktamokshan. In present study Nasyakarma has been selected³.

Nasyakarma is an important therapeutic module among the panchakarma. It has been proved to be very useful in the disease of head and neck.

Pratishyaya is defined as 'Pratikshanam shyayate' means frequently running nose. The feature of this disease in general is similar to that of Rhinitis in modern medicine. Due to increase environmental pollution and busy life it has become common disease in this era and thus the management of Pratishyaya should never be neglected. Rhinitis affect millions of population of the globe .Despite the enormity of the problem pathophysiology of the disease still elude the scientific community. Unfortunately the nose, with convoluted architecture pathways work harmoniously in health, infection can rapidly throw this delicate mechanism in to disarray.

Most infection of paranasal sinuses arise from primary focus in the nose and ciliary dysfunction being the most important factor responsible for the genesis of Rhinitis which is carried out at various stage of the study *Anu Taila , Nasya, Shadbindu, Ghrit Nasya and Kataphal Churna , Vacha and Yavani Churna* etc⁴.

In Ayurvedic classics *Yogaratanakar* described the *Vacha* and *Yavani Churna* (*Pratimarsh Nasya*) in the management of *Pratishyaya*. *Vacha Churna* (*Pratimarsha Nasya*) selected for present study consist of *Ushna, Teekshn* etc. *Guna* and *Ushna Virya* and *katu vipak* and *Yavani churna* consist of *Katu Rasa ,Laghu, Ruksha* and *Tikshna guna Virya Ushna* and *Katu Vipaka* .Which act as *Khaph* and *Vathara* .Since it is useful in elevating *Kapha* and *Vata* of the respiratory tract ,it is used extensively in cough ,asthma, phyringitis laryngitis and Rhinitis .*Vacha* and *Yavani churna* will be used for *Nasya* purpose as told *Yogaratanakar* in *Nasaroga Adhyaya*⁵.

The topic was chosen to study the literature or drug *Vacha* and *Yavani Churna* and it efficacy in *Pratishyaya* further clinical study can be proved it's used in *Pratishyaya*.

Discussion

Vacha and *Yavani Churna* (*Pratimarsh Nasya*) *Nasya* can be helpful in increasing ciliary beat frequency due to it *Ushana Veerya , Kapha* and *Vatahara* properties .

Vacha is useful in elevating *Kapha* and *Vata* of respiratory tract, hence it is used in *Pratishyaya*

The wide spreading property of powder on inhalation and interest treat of possibility of reaching the all important osteomental complex which is the key area in genesis of Rhinitis. So *Yavani* and *Vacha* can be useful in Rhinitis.

Conclusion

Dry powder preparation increase mucociliary clearance in patients of *Pratishyaya* and dry powder may also after the Rhinological properties of the mucous and clearing increases transportability of mucus .In present study of *Vacha* And *Yavani Churna*(*Pratimarsh Nasya*) can be useful in *Pratishyaya Vyadhi* (Rhinitis).

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Rationality of Vriksha Ayurved in plant diseases

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Abstract-

In India farming and cultivation of plants is not a legacy of modern science. Indian Ancient Ashrama traditions carving out of wild and natural forests with preservation of plants of medicinal values. It denotes rising of plant sciences. Vriksha-ayurved is of great relevance in Ayurveda and Agriculture. Vriksha-ayurved gives us a abundant knowledge in various areas of cultivation such as treatment of seeds,soil testing and preparation of land. It gives land classification so as methods for more yield and cultivation practices for plants etc. Vriksha-ayurved also including the topics like the causes of plant diseases and treatment.

Now days the vast amount are being spent every year on pesticides to control pests.Yet pesticides are also proving to be environmentally disastrous. The Vriksha-ayurved would provide us with knowledge on pest management based on sound ecological priniples.

Keywords:- Vriksha-ayurved, Traditional cultivation

Introduction -

A renaissance of interest in *Ayurveda* has result from the health seekers towards natural origin medicine and holistic approach. In India more than 80% of population utilizes different plant species as traditional medicine that described under alternative medicine (AYUSH).For the medicine and nourishment purpose, healthy herbs are important. *Ayurveda* has given empathizes on state of herbs used in many formulations.

Nowadays after successful Green revolution quantity of herbs/crops increased but they have least therapeutical values. Hence, Hybrid variety of plant is not efficient when it is used for therapeutical purpose.

Vrikshayurved is a great relevance in Ayurveda, Agriculture, Horticulture and life sciences. It provides a wealth of knowledge on a variety of areas such as seed treatment, soil testing and preparation, methods for yield increases, land classification, details of cultivation of plants etc. Various other topics like the causes of diseases, their identification and treatment, exploration of water and minerals with help of plants are also discussed. Many techniques and formulations are described under *vrikshayurveda*. *Acharya's* knows about the plant diseases along with human diseases. They had compiled the knowledge as *vrikshayurveda*.

Ayurvedic treatises cover about 2000 species of plants with their medicinal uses. One of the unique features of ancient Indian classical medicine system is proper documentation like *Veda, Samhita, Nighantu, Tika*, etc. In *Atharveda* (3000BC-1000BC) 289 plants were described. (1)

PERIOD	Approximate no. of plants	Literature
3000 BC-1000BC	289	<i>Atharveda</i>
1500BC-500AD	650	<i>Charak Samhita, Sushruta Samhita, Ashtang Sangraha</i>
500AD-1900AD	2000	16 major <i>Nighantu</i> (i.e:- <i>Bhavprakash nighantu, Raj Nighantu</i> , etc)

The cardinal aspect for the development of Indian Medicinal system is quality assurance and the biggest challenge being availability of raw plant material gratifying specific protocols enumerated in classical literatures with fulfilling modern day scientific benchmarks.

Here, *Vriksha-ayurved* gives us a hope to pleasing the protocol of classics so as modern scientific benchmarks. *Vriksha-ayurved* suggested that tree planting is one of the means to attain the four broad aim of life i.e *Dharma, Artha, Karma* and *Moksha* which indicated the importance of trees in holistic development of mankind and use of crop production for sustainable agriculture.

Vriksha-ayurved also having vast knowledge of plant diseases, their causes, identification and treatment, exploration of water and minerals with the help of plants are also discussed.

- Plants diseases:-In *vrikshayurveda*, All plant diseases are broadly classified considering *Aabhyantar one bhaya*. Considering the *vatadi dosha* i.e. *vaat, pita, kapha* as *abhyantar*. They have enlisted *bhaya* diseases.

Two types of plants disease are described in *Vriksha-Ayurveda*.⁽²⁾

- Internal diseases (*Aabhyantar*)
 - These occur due to imbalance of *Doshas* i.e *Vaat, Pitta, Kapha* and further divided into three types.
 - Vataj*- Disease occur due to dry land and the symptoms are thin, weak zigzag stem, hard fruits, tumors, etc.
 - Pittaj*- Disease occur when tree watered with acidic and salty water. Yellowish leaves unhealthy flowering and fruiting are the symptoms of it.
 - Kaphaj*- Disease occur when tree watered with sweet and cold water normally in the winter and spring season. Late flowering and fruiting, small pale leaves etc. are the symptoms of it.

- External diseases-(*Bhaya*)
-These occur due to worms,insects and unfavorable environment,weakness of affected part,dry and broken leaves etc. are the symptoms of it
- Treatment of plant diseases (3)
- Treatment of Internal diseases
- *Vataj*:- *Kunap*(liquid manure prepare from parts of carcasses)on tree suffering from imbalance of *Vaata* fumigation(smoking)by burning animal fat,ghee,hemp and cow's horn also used treat *vata* disorders.
- *Pittaj*- *Pittaj* disease should be treated with cool and sweet substances. When watered by the decoction of milk,honey,yashtimadhu and madhuka, trees suffering from *Pitta* type of diseases get cured.Watered with decoction of fruits,*Triphala*,*Ghee* and honey,the trees are freed of all *Pitta* type of diseases.
- *Kaphaj*-The diseases of the *Kapha* type can be overcome with bitter,strong and astringent decoctions.The paste of white mustard should be deposited at the root and the trees should be watered with a mixture of sesame and ashes to treat *Kaphaj* disorder.Earth around the roots of the trees should be removed and fresh,dry earth should be replaced for curing *Kapha* diseases.
- Treatment of External diseases
- To remove insects both from the root and branches of the trees, should water the tree with cold water for seven days.
- The worm can be overcome by the paste of milk,*Kunap* water and cow dung mixed with the mixture of white mustard,vasa and aativisha.
- The worms accumulated on trees can be treated quickly by smoking the trees with the mixture of mustard,vidanga
- Vasa and water mixed with beef, horn of a buffalo, flesh of pigeon and the powder of Bhallataka.
- To destroy the worm,insect etc.anointing with vidanga mixed with ghee,watering for seven days with salt water and applying ointment made out of beef,mustard and sesame.
- The insect on the leaves can be destroyed by sprinkling the powder of ashes and brick dust.
- Use of foliar and brick dust.
- Use of foliar and soil application of oil to trees to protect from frost and termites.
- Tree suffering from damage due to frost or scorching heat should be externally covered,sprinkling with *Kunap* water and milk is also advisable.
- The broken trees should be smeared with the paste of bark of plaksha and Audumbara mixed with ghee,ghee,honey and the broken part should be firmly tied with the rope of rice stalk,fresh soil should then be filled in the basin around the tree.

- *Kunap* water (4) – *Kunap* preparation involves boiling flesh, fat and marrow of animals such as deer, pig etc. In winter, placing it in the earthen pot and adding milk, powder of sesame oil cake, decoction of pulses, ghee and hot water. Now the pot put in a warm place for two weeks the resulted fermented liquid manure is known as *Kunap* water. Other nutritive substances - Fat , ash,brick powder,cow horn, lotus mud marrow ,goat , buffalo and cow dung ,milk ,honey etc.

Since *Kunapajala* is a liquid fermented from animal wastes that contain animal flesh,bones,bones marrow, dung, urine and skin the fermented product contain basic constituents such as fatty acids, keratins,amino acids, sugars, macro- and (almost all) micronutrients in available form, such plants will respond comparatively better than plants nourised with natural water in terms of growth, flowering and fruiting.

- Mustards- When black mustard (*Brassica nigra*) seeds are broken, the enzyme Myrosinase is released and acts on a glucosinolate known as sinigrin to give allyl isothiocyanate. Likewise the white mustard [*Brassica (Synapsis) alba*] seeds yield sinalbin. Both species possess the property of insect antixenosis [a resistance mechanism employed (usually by a plant) to deter or prevent pest colonization; intended to parallel antibiosis] and are acaricidal, insecticidal, antifungal, and nematicidal.
- Honey-Honey is antimicrobial, used for treating wounds in plants and animals; contains proline, which induces systemic resistance in plants, increases contents of cytokinins and auxins, and protects against stresses – salt, drought, etc. Proline-rich peptides are antimicrobial; honeybee apidaecin is a unique antibacterial peptide derivative found in immune honeybee lymph.
- Milk- Milk is a sticker (on leaves) and growth promoter. Animal milk contains a number of proteins such as glycolactin, angiogenin-1, lactogenin, lactoferrin, lactoperoxidase, alpha-lactalbumin, lactoglobulin, and casein. Milk proteins contain amino acids such as proline, which, as stated before, is known to induce general disease resistance in plants. Lactoferrin present in bovine milk has antibacterial, antiviral antifungal and anti-nematode properties.
- Neem- Neem contains a number of antimicrobial chemicals. The bitter taste of neem is due to the presence of an array of complex compounds called limnoids or limonoids (triterpenoids). Seeds are the main source of active ingredients of neem. So far, nine limnoids have been isolated and identified in neem seeds, viz., salanin, salannol, salannol acetate, diacetyl salanin, 14-epoxy azaradion, gedunin, nimbine, D-acetyl nimbenin, and azadirachtin. Of these, azadirachtin is the most active compound. The neem derivatives do not kill but modify the biological processes of harmful insects in a detrimental way. The actions include antifeedant effect, larval repellent, oviposition deterrent, growth and metamorphosis inhibiting effects, effect on fecundity and egg sterility, attractants, etc. Neem bark has also antibacterial and anti- insect properties.

- Vidanga – Vrikshayurvedas have recommended fruits of vidanga/bidanga (*Embelia ribes*) as an anthelmintic material. Embelin (2, 5-dihydroxy-3-undecyl-p-benzoquinone) is found to be the active principle of *Embelia ribes* and reported to possess a wide spectrum of biological activities including antibacterial and insecticidal properties.
- Hair, nails, and horns- These contain keratin, which have large amounts of the sulfur-containing amino acid cysteine, required for the disulfide bridges that confer additional strength and rigidity by permanent, thermally-stable cross linking. When burnt, keratin emits sulfurous smell as it consists of sulfur in high amount. Smoke from nails, etc. releases sulfur that controls diseases and pests.
- Panchgavya (5):- In general, management of soil borne diseases is very difficult particularly, Fusarium pathogen which is a soil inhabitant and remains viable for 50 years in the soil. Hence, it is difficult to manage this pathogen by any methods including cultural methods.

The cow milk, curd, ghee, Cow dung and cow urine have been individually used as plant protection protocols as prescribed in ancient Vrikshayurveda texts (concerning health of plants/trees). It is known that cow ghee and curd are toxic to certain living entities and in addition curd is acidic. The Panchagavya five products of cow (milk, curd, ghee, dung and urine) is supposed to be consumed in a little quantity by persons who need to get purified before performing certain Pooja.

The innovative research on use of modified Panchagavya mixture (MPG-3) was carried out on two soil borne diseases like Fusarium wilt of tomato and Panama disease of banana. The traditional Panchagavya was modified by adding yeast and common salt and three formulations were tested.

There was reduction in Fusarium population in MPG-3 treated pots. Soil application of MPG-3 provided encouraging results compared with seedling dip. The population of Fusarium wilt declined significantly to 11.8×10^4 du/9 after 150 days of planting. These results indicate the promise shown by MPG-3 in the ecofriendly and cost effective management of Fusarium wilt.

Discussion:-

Knowledge of *Ayurveda* had developed very well and medicinal powders, decoctions (fresh or fermented), fumigations, pastes, etc. were made from locally available materials. The raw materials used were cattle products, herbals, and natural products such as honey. Since scholars treated plant life and human (animal) life as similar, application of *Ayurvedic* principles and prescriptions to plants slowly developed into a distinct discipline, *Vrikshayurveda*.

Vrikshayurveda i.e. the Indian science of plants has great importance in traditional methods of agriculture, pest control and crop management. It has long theoretical and practical history in India. There are large numbers of manuscripts.

Acharayas were familiar with hidden active principle in plants e.g. Keratin, MPG-3. The Panchagavya is used on two soil borne diseases like Fusarium wilt of tomato and Panama disease of banana by modifying it.

Conclusion:-

The vast knowledge provided by *Vrikshayurveda* is very effective and convenient to use. Still in modern agriculture's era *Vrikshayurveda* has its own importance.

- The knowledge of *Vrikshayurveda* can be effective in terms of various plants and diseases.
- The *dravyas* (drugs) used in plant diseases are natural and easily available.
- The usages of various techniques and formulation can prove rational for the treating the plant diseases.
- With the field trials of the techniques mentioned in *vrikshayurved* can be studied thoroughly in the treatment of plant diseases.

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Need of tissue culture for conservation of medicinal plants

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Abstract

Plant are the basic important ingredient in man's life style. Beside all useful plants in flora, medicinal herb/plants are majorly used all over the world due to curative property. Many pathies including Ayurveda use plants for treatment purpose. The database of medicinal plants is being added by new plants. But some plants are getting scared which are having great importance in medicine. Some plants have such a long germination period, while some having long reproduction time e.g. Santalum album after 20 yrs of germination, Abrus seed germinate after a long time. There is a need for conservation of such medicinal plants. Only cultivation of these plants is not sufficient to provide the demand. The modern techniques, new invention should be taken for grant. Tissue culture is one of such technique which is now used to develop best plant species, it is used in plant like pomegranate, Banana yield like cotton, brinjal etc. This method can also be used to develop plant species, which are distinct and waning day by day. A major step should be formulated in cultivation of medicinal plants by tissue culture, also their effectiveness in clinical practice.

Key word- Conservation, Tissue culture, Cultivation

Introduction

Plants are main source of life for living being direct or indirect mean. in the plant flora, some plants use for great extent because of having medicinal/ healing property. Such category of medicinal plants are diminishing day by day, whose conservation, protection is a need of era. New techniques are to be adopted for same. Tissue culture is a scientific boom for conservation of medicinal plant. The science of plant tissue culture takes its root from the discovery of cell followed by production of cell theory ^[1].

What is Tissue Culture?

Tissue culture is the vitro aseptic culture of cell, tissue, organ the whole plant under the controlled nutritional and environmental condition ^[2]. The controlled condition provides culture an environment conducive for their growth and multiplication. This condition includes proper supply of nutrients, pH medium, adequate temperature and proper gaseous liquid environment

Plant tissue culture technology is being widely used for large scale plant multiplication. Apart from their use as a tool of research, plant tissue culture techniques have in recent year, becomes of major importance in area of plant propagation, disease of secondary metabolites, small pieces of tissue culture (named explants) can be produce

thousands of medicinal plant in continuous process . A single explants can be multiplied in several thousand plant relatively short time period and space of under the controlled condition , irrespective in seasons and weather on year round basis .Endangered, threaded and rare species have successfully been grown and conserved by micro propagation because high coefficient of multiplication and small demand on number of initial plant and space^[3] . In modern usage, tissue cultures refer to the growth of cells form tissue from multi cellular organism in vitro. The term tissue culture is after used interchangeably with the cell culture

The literal meaning of tissue culture refer to the culturing tissue pieces, i.e. explants culture.

The tissue culture is an important to for the study of the biology of cells multi cellular organisms. It provides an in vitro model of the tissue in a defined environment which can be easily manipulated and analysed.

Hence plant cell and tissue culture great promise for controlled production of myriad of useful secondary metabolism .Plant cell culture combine the merits of whole plant systems with those of microbial and animal cell culture for the production of valuable secondary metabolites. In the search of alternative to production of medicinal compound from plant, biotechnology approaches, especially culture are found to have potential as supplement to tradition agriculture in the industrial production of bioactive plant metabolism.

Hence the plant cell biotechnology has evolved as new era in the field of biotechnology, focusing on the production secondary plant product .Nowadays, one of the most important methods of producing plants and other medicinal substance, such as antibodies and vaccines is use of transgenic plant. Transgenic plant represent an economical alternative to fermentation based production system .Plant made vaccine on antibodies are specially striking ,as plants are from human disease , thus reducing screening cost for various and bacterial toxins. Hence tissue culture is important in medicinal plant.

Tissue Culture Technique^[4]

Preparation of plant tissue for tissue culture is performed under aseptic conditions under HEPA filtered air provided by a laminar flow cabinet. Thereafter, the tissue is grown in sterile containers, such as petri dishes or flasks in a growth room with controlled temperature and light intensity. Living plant materials from the environment are naturally contaminated on their surfaces (and sometimes interiors) with microorganisms, so their surfaces are sterilized in chemical solutions (usually alcohol and sodium or calcium hypochlorite before suitable samples (known as explants) are taken. The sterile explants are then usually placed on the surface of a sterile solid culture medium, but are sometimes placed directly into a sterile liquid medium, particularly when cell suspension cultures are desired. Solid and liquid media are generally composed of inorganic salts plus a few organic nutrients, vitamins and plant hormones. Solid media are prepared from liquid media with the addition of a gelling agent, usually purified agar.

The composition of the medium, particularly the plant hormones and the nitrogen source (nitrate versus ammonium salts or amino acids) have profound effects on the morphology of the tissues that grow from the initial explant. For example, an excess of [auxin](#) will often result in a proliferation of roots, while an excess of [cytokinin](#) may yield shoots. A balance of both auxin and cytokinin will often produce an unorganised growth of cells, or callus, but the morphology of the outgrowth will depend on the plant species as well as the medium composition. As cultures grow, pieces are typically sliced off and subcultured onto new media to allow for growth or to alter the morphology of the culture. The skill and experience of the tissue culturist are important in judging which pieces to culture and which to discard.

As shoots emerge from a culture, they may be sliced off and rooted with auxin to produce plantlets which, when mature, can be transferred to potting soil for further growth in the greenhouse as normal plants.

Importance of Medicinal Plants [5]

India has 2.4% world's area with 8% of global biodiversity and it is one of the 12th mega-diversity hotspot countries of the world's with rich diversity of biotic resources. Out of 34 hotspot, India has two major hotspots namely Eastern Himalayas and Western Ghats.

India is also rich in medicinal plant diversity with all the three level of biodiversity such as species diversity, genetic diversity and habitat diversity. Across the country, the forest is estimated to harbour 90% of India's total medicinal plants diversity. Only about 10% of the known medicinal plants of India are restricted to non-forest habitat. It is estimated that in India 75,000 species of medicinal plants are present as compared to other countries.

Uses of Important medicinal plants of India [5]

Name	Family	Common Name	Uses
Aegel marmelos	Rutaceae	Bael tree	Diarrhoea, dysentery, malaria, fever, jaundice.
Acorus calamus	Araceae	Sweet flag, Bach	Anti-spasmodic, anti-helminthic properties also used for treatment of epilepsy, mental ailment, diarrhoea, dysentery.
Celestrus paniculatus	Celestraceae	Malkangani	Memory booster, depression, paralysis.
Commiphora mukul	Burseraceae	Guggulu	Astringent, expectorant, strong purifying and rejuvenating property and uterine stimulant.
Bacopa monnieri	Scrophulariaceae	Brahmi	Mental function longevity, disease fatigue and depression, energise the CNS.
Glycerrhiza glabra	Fabaceae	Liquorice	Ulcer, anti-spasmodic, asthma, cough.

List of Medicinal Plants in-vitro culture [5,6]

Sr. No.	Species Name	Explants	Ref.
1	Aegel marmelos	Nodal segment, shoot tip	Yadav & Singh, 2011
2	Acorus calamus	Rhizome tip & Rhizome segment	Yadav et.al., 2011
3	Celestrus paniculatus	Nodal segment	Sood & Choulin, 2009
4	Gymneme Sylvestre	Seed	Konalavalli & Rao, 2000.
5	Glycyrrhiza glabra	Nodal segment	Vadodaria et.al., 2007
6	Tinospora cordifolia	Nodal segment	Gururaj et.al., 2007

Choice of explants ^[5] The tissue obtained from a plant to be cultured is called an explant.

Explants can be taken from many different parts of a plant, including portions of shoots, leaves, stems, flowers, roots, single [undifferentiated cells](#) and from many types of mature cells provided they still contain living cytoplasm and nuclei and are able to de-differentiate and resume cell division. This has given rise to the concept of totipotency of plant cells. However this is not true for all cells or for all plants. In many species explants of various organs vary in their rates of growth and regeneration, while some do not grow at all. The choice of explant material also determines if the plantlets developed via tissue culture are [haploid](#) or [diploid](#). Also the risk of microbial contamination is increased with inappropriate explants.

The first method involving the meristems and induction of multiple shoots is the preferred method for the micropropagation industry since the risks of somaclonal variation (genetic variation induced in tissue culture) are minimal when compared to the other two methods. Somatic embryogenesis is a method that has the potential to be several times higher in multiplication rates and is amenable to handling in liquid culture systems like bioreactors.

Some explants, like the [root tip](#), are hard to isolate and are contaminated with soil microflora that become problematic during the tissue culture process. Certain soil microflora can form tight associations with the [root systems](#), or even grow within the root. Soil particles bound to roots are difficult to remove without injury to the roots that then allows microbial attack. These associated [microflora](#) will generally overgrow the tissue culture medium before there is significant growth of plant tissue.

Some cultured tissues are slow in their growth. For them there would be two options: (i) Optimizing the culture medium; (ii) Culturing highly responsive tissues or varieties. Necrosis can spoil cultured tissues. Generally, plant varieties differ in susceptibility to tissue culture necrosis. Thus, by culturing highly responsive varieties (or tissues) it can be managed.

Aerial (above soil) explants are also rich in undesirable microflora. However, they are more easily removed from the explant by gentle rinsing, and the remainder usually can be killed by surface sterilization. Most of the surface microflora do not form tight

associations with the [plant tissue](#). Such associations can usually be found by visual inspection as a mosaic, de-colorization or localized [necrosis](#) on the surface of the explant.

An alternative for obtaining uncontaminated explants is to take explants from seedlings which are aseptically grown from surface-sterilized seeds. The hard surface of the seed is less permeable to penetration of harsh surface sterilizing agents, such as [hypochlorite](#), so the acceptable conditions of sterilization used for seeds can be much more stringent than for vegetative tissues.

Tissue cultured plants are [clones](#). If the original mother plant used to produce the first explants is susceptible to a pathogen or environmental condition, the entire crop would be susceptible to the same problem. Conversely, any positive traits would remain within the line also.

Applications

- Plant tissue culture is used widely in the plant sciences, forestry, and in horticulture. Applications include:
- The commercial production of plants used as potting, landscape, and florist subjects, which uses meristem and shoot culture to produce large numbers of identical individuals.
- To [conserve](#) rare or endangered plant species.
- A [plant breeder](#) may use tissue culture to screen cells rather than plants for advantageous characters, e.g. [herbicide](#) resistance/tolerance.
- Large-scale growth of plant cells in liquid culture in [bioreactors](#) for production of valuable compounds, like [plant-derived secondary metabolites](#) and [recombinant proteins](#) used as [biopharmaceuticals](#).
- To cross distantly related species by [protoplast fusion](#) and regeneration of the novel [hybrid](#).
- To rapidly study the molecular basis for physiological, biochemical, and reproductive mechanisms in plants, for example in vitro selection for stress tolerant plants.
- To cross-pollinate distantly related species and then tissue culture the resulting embryo which would otherwise normally die (Embryo Rescue).
- For chromosome doubling and induction of [polyploidy](#), for example doubled haploids, [tetraploids](#), and other forms of [polyploids](#). This is usually achieved by application of [antimitotic agents](#) such as [colchicine](#) or [oryzalin](#).
- As a tissue for transformation, followed by either short-term testing of genetic constructs or regeneration of [transgenic](#) plants.
- Certain techniques such as meristem tip culture can be used to produce clean plant material from virused stock, such as potatoes and many species of soft fruit.
- Production of identical sterile hybrid species can be obtained.

Conclusion:

- There are no. Of review published
- The rapid production and high quality, disease free and uniform planting stock is only possible through micropropagation. New opportunity has been created for the procedure.

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REVIEW OF VARAHIKANDA (DIOSCOREA BULBIFERA) FOR ITS PHARMACOLOGICAL PROPERTIES

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ABSTRACT

Dioscorea bulbifera (Linn) is an important medicinal plant. The medicinal uses of *Varahikanda* are of utmost importance. In Ayurvedic literature it is used to cure some disease. A review of research work done regarding ancient and ayurvedic properties of *varahikanda*, i.e. *Dioscorea bulbifera* is mentioned here. The study shows that *Varahikanda* possesses various pharmacological properties. According to Ayurveda *Jeevaneeya*, *Rasayana*, *Balya*, *Krumighna*, *Pramehaghna*, *Kushtaghna*, *Vrushya*, *Nadivrun*, *Visarpa*, *Udarshool*, *Raktapitta*. According to modern science it possesses Antimicrobial activity, Wound healing activity, Antihyperglycemic activity, Dyslipidemic activity, Anticancer activity, Immunomodulatory activity, Antioxidant activity and Antiinflammatory and Analgesic activity, Anthelmintic activity, Aphrodisiac activity.

KEYWORDS: *Varahikanda*, *Dioscorea bulbifera*, pharmacological actions.

INTRODUCTION

Dioscorea bulbifera (Linn), family *Dioscoreaceae* commonly known as *varahikanda*. It is an important medical plant. Almost all parts of *varahikanda* are of medicinal importance and

used traditionally for the treatment of various ailments. In ayurvedic medicine it is used commonly. *Sushruta* and *Vagabhatta* both highlighted its importance as “*Rasayana*” and *Jeevaneeya* Dravya. *Acharya Sushruta* states its importance in ‘*sarwopaghata shamaniya rasayana adhyaya*’ and ‘*Nivrutta santapeeyarasayana Adhyaya*’ of “*chikitsasthana*”. *Acharya Vagabhatta* give its importance in *mutraghatachikitsitam adhyaya* as *pittashmari bhedan yoga*, *Visarpchikitsitam adhyaya* as *Pittajavisarpanashak yoga*, and *Rasayanavidhi adhyaya* as *Rasayan yoga*.

Properties and uses of *Varahikanda* mentioned in *samhita* and *nighantu*.

Sr.No.	Name of <i>Samhita</i> and <i>Nighantu</i>	Properties and Uses
1.	<i>Sushruta Samhita</i>	<i>Prameha, Kushta, Krumiorog, Visarpa, Nadivrun, Rasayana.</i> ^[1]
2.	<i>Vagabhatta Samhita</i>	<i>Pittashmari, Pittajavisarpa, Kushta, Rasayana.</i> ^[2]
3.	<i>Bhavprakash Nighantu</i>	<i>Kushta, Medohar, Krumirog, Udarshool, Pravahika, Raktapitta, Prameha, Raktatisar.</i> ^[3]
4.	<i>Dhanwantari Nighantu</i>	<i>Kushta, Krumiroga, Hrudya, Balya, Rasayan.</i> ^[4]
5.	<i>Raja Nighantu</i>	<i>Kushta, Prameha, Vrushya, Balya, Rasayana.</i> ^[5]

Vernacular Names^[6]

ENGLISH : yam

HINDI : ratalu, sauralu, pitalu, zamin kand

BENGALI : banalu, kukuralu, gaicha, alu

GUJARATI : goradu

KANNAD : hegenasu

MALYALAM : kattu kachil

MARATHI : Manakund, konfa goradu, karanda, karukarinda, gathalu.

Botanical description^[7]

Tubers variable, Bulbils numerous, irregular in shape, 2.5cm, or more across, brown, warted. Stem twining to the left. Leaves usually alternate, about 10-15 by 7-5-10 cm., often much larger or smaller, ovate, acuminate, base more or less deeply chordate, lobes rounded, 7-11 nerved. Male spikes 5-10 cm. long, clustered, axillaries of in leafless panicles. Stamens 6. Female spikes 10-25 cm, long in axillary clusters of 2-5. Capsule 1.8-2-2cm long, oblong. Seeds winged at the base.

Pharmacological actions**• Wound healing activity^[8]**

The tubers of *dioscorea bulbifera* are used a folk reamedy to cure the wounds, leucoderma and boil's. The present study was undertaken to verify the effect of the tubers of *dioscorea bulbifera* on experimentally induced excision wound model in rats for period of 22 days.

The study of wound healing model reveals significant wound healing activity, high rate of wound contraction and decrease in the period for epithelisation of the extracts of tubers that are comparable with standard ointment.

• Anticancer Activity^[9]

Antitumor Activity of water extract (fraction A), ethanol extract (fraction B), ethyl acetate extract (fraction C), non ethyl extract (fraction D) and compound diosbulbin B isolated from *dioscorea bulbifera* Linn. [DB] investigated in vivo this present study the result showed that fractions B and C both decreased tumor weight in S 180 and H22 tumor cell bearing mice, while friction A and B had no such effect. Furthermore, fraction C altered the weight of spleen and thymus and the amount of total leukocytes, lymphocytes and nutrophils in tumor bearing mice. Further result showed that compound diosbulbin B demonstrated antitumor effect in tha dose-dependent manner at dosage of 2 to 16 mg/kg without significant toxicity in vivo. Furthermore on the basis of chemical analysis of the above extracts by high performance liquid chromatography (HPLC) with diode array detector (DAD), diosbulbin B was found to be the major antitumor effects which may be related to influencing the immune system for the first time, and the compound diosbulbin B is the major antitumor compound of *dioscorea bulbifera*.

• Antimicrobial activity^[10]

The successive extract of *dioscorea bulbifera* (bulbils) has been investigated for In vitro antimicrobial activity against *klebsiella pneumoniae*, *Escherchia coli*, *Bacillus aureus*, *Proteus velgaris*, *staphylococcus aureus*, *Aspargillus niger*, *Aspargillus flavus*, *A fumigatus* and *rizopus nigricans*. The petroleum ether and chloroform extracts showed significant activity against *A. Fumigatus* and *R. Nigricans*.

The petroleum ether and distllied water extract showed good activity against *K. Pneumoniae*. The chloroform extract showed feeble activity aginst *S. Aureus*.

- **Aphrodisiac activity**^[11]

Erectile dysfunction or male impotence is defined as the inability of man to achieve and maintain an erection sufficient mutually satisfactory intercourse. With his partner. Sexual health and function are important determinants of quality of life. To overcome the problem of sexual or erectile dysfunction various natural aphrodisiac potential are preferred. The present review discuss about aphrodisiac potential of plants, its biological source, common name, part used and references. which are helpful for researcher to development new aphrodisiac formulation. In *Dioscorea bulbifera* Linn is mentioned as aphrodisiac.

- **Antioxidant activity**^[12]

Dioscorea bulbifera is major staple food crop which is species of yam widely distributed around the world in tropical and subtropical regions. *Dioscorea bulbifera* have been traditionally used to lower glycemic index thus providing more sustained form of energy and better protection against obesity and diabetes it also has anticancer property. The present study was undertaken to investigate the antioxidant activity of *Dioscorea bulbifera*. The ethanol extract of tuber of *Dioscorea bulbifera* were screened for their enzymatic and non enzymatic activity. The level of enzymatic antioxidant glutathione peroxidase (GPX), catalase (CAT), superoxide dismutase (SOD) and glucose-6-phosphate dehydrogenase (G6PD) and glucose-s-transferase (GST) was found to be very impressive *Dioscorea bulbifera* contains good and commendable store of non enzymatic antioxidant namely reduced glutathione (GSH), Vitamin C, Vitamin E. Our result have good significance as this increase the innate antioxidant potential of *Dioscorea bulbifera* which is useful in providing the antioxidant need in the diet and thereby *Dioscorea bulbifera* accomplishes high value nutritive and natural store of antioxidant.

- **Anthelmintic activity**^[13]

Ethnobotanical information from Nigeria specifies the usage of *Dioscorea bulbifera* Linn in treatment of parasitic diseases in human and thus could be of value in the development of resistance to common synthetic anthelmintic activity of methanol extract of the flesh and peel of the bulbils of *Dioscorea bulbifera* on *Fasciola gigantica* and *Peritremis posthama* at concentrations ranging from 10 to 100 mg/ml. Albendazole and normal saline were induced in assay as standard reference drug and control respectively. Thin layer chromatography was used to screen the methanol extracts of flesh and peel of bulbils of *Dioscorea bulbifera* for secondary metabolites in comparison with gallic acid and quercetin. The median lethal

concentration values of the flesh and peel extracts of *dioscorea bulbifera* were 39.67 and 30.40 mg/ml for earthworm and 61.73 and 41.79 mg/ml for liver fluke respectively. The peel was more potent at 100 mg/ml causing paralysis in 5.6 ± 0.51 min and death in 10 ± 0.45 min in earthworm the finding from this study shows *dioscorea bulbifera* possess in vitro anthelmintic compound worthy of for the evaluations.

- **Antihyperglycemic and dyslipidemic activity**^[14]

Dioscorea bulbifera the air potato has been used in the Chinese system of medicine to treat disease of lungs, kidney and spleen and many types of diarrhea. Commonly known as yams. These plants have been traditionally used to lower glycemic index thus providing a more sustained form of energy and better protection against obesity and diabetes. The present study was carried out to scientifically evaluate the aqueous extracts of *Dioscorea bulbifera* tubers (DBE A003) for its antihyperglycemic activity in glucose primed and streptozocin (STZ) treated Wistar rats and antidyslipidemic potential in high fat diet fed C57BL/6J mice, respectively. The antihyperglycemic condition by priming Wistar rats with 1.59/kg P.O. glucose and rendering them diabetic by infection of STZ (45mg/kg) intraperitoneally. Dyslipidemic condition was in C57BL/6J mice by feeding them high fat diet. DBEA003 at 250, 500 and 1000 mg/kg doses administered for 3 weeks to STZ treated rats and for 4 weeks to high fat diet fed C57BL/6J mice showed significant antihyperglycemic and dyslipidemic effects.

In STZ treated rats with severe diabetes. The 7 week DBEA003 treatment produced severe reduction in blood glucose level and increase in body weight serum glucose and lipid levels were reversed towards normal in DBEA003 treated high fat diet fed mice.

- **Immunomodulatory activity**^[15]

Cyclophosphamide (CTX) is commonly used in cancer chemotherapy, which causes immunosuppression and tissue oxidative stress at high doses. As potential protective agents, some polysaccharides were shown to have anti-tumor, anti-inflammatory and/or anti-oxidant properties. This study explored potential effects of oral treatment of *Dioscorea bulbifera* polysaccharides (DBLP at 100 or 150 mg/kg) in U14 cervical tumor-bearing mice treated with CTX (25 mg/kg). While CTX suppressed tumor growth (65.4% inhibition) and DBLP alone also inhibited tumor (25.6% at 100 mg/kg or 37.6% at 150 mg/kg), CTX+DBLP combination produced tumor inhibition rates of 5.6 (for 100 mg/kg DBLP) or 9% (for

150 mg/kg) higher than CTX alone. While tumor itself and CTX treatment reduced thymus and/or spleen/body weight indices, DBLP alone or CTX + DBLP combination attenuated this reduction. DBLP lowered peripheral blood T-cell subpopulation CD⁴⁺/CD⁸⁺ ratio, and DBLP+CTX combination attenuated CTX effect in lifting CD⁴⁺/CD⁸⁺ ratio. Tumor itself and CTX treatment heightened oxidative stress (with decreased superoxide dismutase but increased lactate dehydrogenase and malondialdehyde levels in serum and tissues), which was attenuated by DBLP treatment, and DBLP+CTX combination suppressed CTX-induced oxidative stress. Combination use of DBLP with CTX can potentially enhance CTX anti-tumor effect and can attenuate CTX-induced immunosuppression and oxidative stress in U14 cervical tumor-bearing mice.

- **Analgesic and Anti inflammatory activity**^[16]

The aqueous and methanol extracts from the dry bulbils of *Dioscorea bulbifera* L. var *sativa* (Dioscoreaceae)—evaluated orally at the doses of 300 and 600 mg/kg against pain induced by acetic acid, formalin, pressure and against inflammation induced by carrageenan, histamine, serotonin and formalin in mice and rats, showed a dose dependant inhibition of pain and inflammation with a maximum effect of 56.38%, 73.06% and 42.79% produced by the aqueous extract, respectively on pain induced by acetic acid, formalin and pressure. while the methanol extract at the same dose respectively inhibited these models of pain by 62.70%, 84.54% and 47.70%. The oral administration of aqueous and methanol extracts caused significant anti-inflammatory activity on paw oedema induced by histamine, serotonin and formalin. The present results show that the bulbils of *Dioscorea bulbifera* var *sativa* possess potent analgesic and anti-inflammatory activities. These activities may results from the inhibition of inflammatory mediators such as histamine, serotonin and prostaglandins. Thus, the analgesic activity of the bulbils of *Dioscorea bulbifera* may be at least partially linked to its anti-inflammatory activity.

These properties can be compared as follows.

Sr. No.	Ayurvedic Properties	Modern Properties
1.	<i>Pramehaghna</i>	Antidiabetic activity
2.	<i>Jeevaneeya</i>	Antioxidant activity
3.	<i>Rasayana, Balya</i>	Immunomodulatory activity
4.	<i>Prvahika, Visarpa, Kushtghna</i>	Antimicrobial activity
5.	<i>Nadivruna</i>	Wound healing activity
6.	<i>Raktapitta, Raktatisar</i>	Anticancer activity in blood cancer
7.	<i>Medohar</i>	Dyslipidemic activity
8.	<i>Udarshool, Nadivrun</i>	Anti-inflammatory and

		Analgesic activity
9.	<i>Krumighana</i>	Anthelminti activity
10.	<i>Vrushya</i>	Aphrodisiac activity



DISCUSSION

The Ayurvedic references shows that the plant *Varahikanda* possesses, *Rasayana*, *Jeevaneeya*, *Pramehaghna*, *Kushtaghna*, *Balya*, *Vrushya*, *Raktapittahar*, *Udarshoolahar*, *Pravahikahar*, *Nadivrunhar*, *Medohar* and *Krumiroghar* properties. Modern studies states the properties of *Varahikanda* as Immunomodulatory activity, wound healing activity, Antioxidant activity, Antidibetic activity, Dyslipidemic activity, Analgesic and Anti inflammatory activity, Aphrodisiac activity, Anthelmintic activity, anti carcinogenic activity, Antimicrobial activity.

CONCLUSION

The literary study of Varahikanda from Ayurvedic texts and modern researches concludes that Varahikanda i.e. *Dioscorea bulbifera* Linn. has following properties. According to Ayurveda *Rasayana*, *Jeevaneeya*, *Pramehaghna*, *Kushtaghna*, *Balya*, *Vrushya*, *Raktapittahar*, *Udarshoolahar*, *Pravahikahar*, *Nadivrunhar*, *Medohar* and *Krumiroghar* and According to modern Immunomodulatory activity, wound healing activity, Antioxidant activity, Antidiabetic activity, Dyslipidemic activity, Analgesic and Anti inflammatory activity, Aphrodisiac activity, Anthelmintic activity, anti carcinogenic activity, Antimicrobial activity.

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**ANATOMICAL ELABORATION OF GAVINI SHARIR
(ATHARVAVEDA) WITH SPECIAL REFERENCE TO ADHOGAMI
MUTRAVAHIDHAMANI**

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ABSTRACT :

The *Ayurvedic* Literature on *Adhogami Dhamanis* is compiled and studied. The exact division of *Dhamani* and detail study of *Adhogat Dhamanis* which are present in Abdomen is done. Out of them the two *Mutravahi Dhamanis* are described with all references. Then the *Gavini Sharir* is elaborated with its main reference from *Atharvaveda* and all commentaries compiled together to elaborate *Gavini*. All the opinions regarding their meaning, grammar in the *paribhasha* of *Shloka* to get the exact meaning are discussed. To go practically for the Anatomy cadaveric dissections were done and the observations were noted, these observations are suggestive about the mixed up use of *Dhamani* word everywhere and the word is used for particular structure regarding the present topic. And the same is used at another place with a different meaning. Sometimes it was considered as artery, vein, lymphatic and sometimes even for the vessels attached to the viscera. To study the above points in depth, the histological study was also done and it also revealed that similarities are more than the differences in artery and Ureter.

The *Sharir* told in *Atharvaveda* has been elaborated by *Sushruta* by his own practical approach. But the *Gavini Sharir* in *Atharvaveda* is not explained further by *Sushruta*. He had written about *Adhogami Mutravahi Dhamani* but didn't use the word *Gavini*. There are still many confusions and dilemma about many things. This diversity should be united to make a certain conclusion. This study is to compile and analyze *Gavini* and *Adhogami Mutravahi Dhamanis* to evaluate these two are different or one and the same.

Key words: *Gavini sharir, Atharvaveda, Adhogami mutravahi dhamani*

INTRODUCTION: Knowledge of human body is the very first step in the world of medical science. "*Sharir*" means human body and "*Rachana*" means structure. So *Sharir Rachana* is the branch of *Ayurveda* which states a detailed description of the structures in human body. *Acharya Sushruta* made evolution in this science by conducting practical cadaveric dissections

and had detail study of *Sharir Rachana* in that ancient time without any high definition instruments. The *Sharir* told in *Atharvaveda* has been elaborated by *Sushruta* by his own practical approach. But the *Gavini Sharir* in *Atharvaveda* is not explained further by *Sushruta*. He had written about *Adhogami Mutravahi Dhamani* but didn't used word *Gavini*. The

vessels which make urine to flow and get collected into urinary bladder are told by Bruhatrayee, but not by the name Gavini. There is confusion and dilemma about the concept of Gavini. This diversity should be united to make certain conclusion. This confusion and dilemma inspired for the exploration of Gavini Sharir. To elaborate Gavini Sharir compilation and analysis of Gavini and Adhogami Mutravahi Dhamanis done to evaluate these two are different or one and the same.

AIM AND OBJECTIVES

Aim: Detail anatomical study of Gavini Sharir with special reference to Adhogami Mutravahi Dhamani.

Objectives:

- 1) Detail study of Dhamani Sharir through Ayurvedic literature.
- 2) Collection of literature or reference of Gavini in Atharvaveda, Bruhatrayee,

Laghutrayee with all commentaries, Modern science texts, so as to explore Gavini Sharir.

- 3) Comparative study of Mutravahi Dhamani and Gavini.

REVIEW OF AYURVEDIC LITERATURE

Dhamani Sharir

Dhamani Vyutpatti

- Dhaman -Blowing.
- Dhamani -A reed pipe.^[1]
- Shira (Stri.) Dhamanyam
- Kaviraj Gangadhar Roy said 'Dhaman' is 'hollowness', 'sravana', the Passage of flow and 'sarana' the movement.

Dhamani Pravibhaag, Sankhya

All Acharyas noted branching of Dhamanis and their Pravibhaag with counts of them. Here are the references collected to show and understand these Vibhaag and counts.

Sr. no.	Samhita	Total Dhamani Sankhya	Divisions
1	Atharvaveda ^[2]	1000	-
2	Charaka ^[3]	10	200 → 29956
3	Sharangdhar ^[8]	24	-
4	Sushruta ^[6]	24	Urdhva Adhah Tiryak 10 10 4
5	Ashtanga Hridaya ^[7]	24	Urdhva Adhah Tiryak 10 10 4
6	Bhel ^[4]	10	Urdhva Adhah Tiryak 4 4 2
7	Kashyapa ^[5]	10	Urdhva Adhah Tiryak 4 4 2

Chart to show the Total Dhamani Sankhya described in Ayurvedic literature:

GAVINI VICHAR

Vyutapatti: It is the word meaning or given to the Kikad named animal which lives in burrow. It is also pronounced as Javina^[9].

Gavini Sharir : The main and first of all references about Gavini comes from Atharvaveda Pratham Kanda- Pratham

Anuvaak- Trutiya Sukta- Shashthi as follows^[1]

This reference is regarding Niruddha Mutra (Retention of Urine) Chikitsa. It says because of the disease the Mutra got collected in abdominal Nadis/ vessels, Mutra filled in Gavinis and the Mutra

filled up in *Mutrabasti*, that your whole *Mutra* should come out making *Baal* sound. *Sayanacharya* commented on *Atharvaveda Sukta* as, inside the *aantra* in *Udara* which *Mutra* is collected in diseased condition comes out at time...

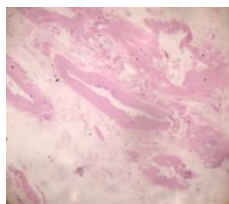
Retention of *Mutra* in *Gavinis*. Absorbed from *Aantra* the *Mutra*'s vector or medium to come in *Mutrashaya* is two laterally situated *Nadis*/ vessels and are called as *Gavini*.

Here *Gavinis* are *Mutravahi Strotas* which makes flow of urine produced in *Vrukkas* doubtlessly.^[1]

Dalhan explored the complete digestion process in between *Aamashaya* and *Pakvashaya*, the *Toya (Jaliyansha)* in *Aaaharasya Annabhaava* i.e. *Saar bhaaga* absorbed in *Pakvaashaya* is future *Mutra*'s *Kaaran* produced after digestion of food and separated from it, that *Dravamaya* (liquid) *Udaka* is conveyed by or flowed by two *Naadis*. That *Udaka* after coming into *Basti* known as *Mutra*, that *Mutra* is poured by the *naadis* which are adjoined or connected to *Mutrabasti*. *Haaranchandra* commented as there are two channels doing *Mutravahan* coming from *Vrukkas*.^[6]

Gaviniau- Ureters: *Gananath Sen* in his *Pratyaksha Sharir* Preface commented on *Mutrabasti* coming two *Mutravahi Dhamanis* are clearly Indicating *Gavinis*. Though here *Mutravahi* are *Gavinis*, *Shishnastha* (Penile) *Mutramarga* is *Mutrapraseka*^[9].

OBSERVATIONS



T.S. of Gonadal artery

Gavinis= Ureters And *Mutra nirmitt* in *Vrukka* is poured in *Gavinis*, this *Mutrasya* channels to come in *Mutrashaya* are *Gavinis*.

Mutravahi are *Strota/ Marga* coming from *Vrukka*, these two *Strota* are called as *Gavini*^[9].

MATERIALS: *Bruhatrayee, Laghutrayee, Ayurvedic samhitas*, Reference Books, Journals, Texts, Available Modern Science books of Anatomy. Models, charts, diagrams, atlas, O.H.P. slides, pubmed, Previous researches, published documents.

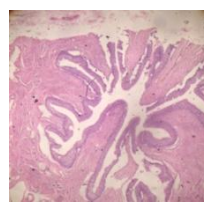
Human Cadaver for dissection. Instruments for Dissection.

METHODS: The Study was conducted at CSMSS Ayurved Mahavidyalaya, Kanchanwadi, Aurangabad, Maharashtra.

1. DISSECTION OF HUMAN CADAVER PERFORMED IN DISSECTION HALL

2. COLLECTION OF SAMPLE FOR HISTOLOGICAL STUDY

1. Piece of Ureter cut from the cadaver and collected in a sterile bulb containing Formalin.
2. Piece of Gonadal artery taken in another bulb containing Formalin.
3. The collected samples then brought to the Histopathology laboratory for their Transverse Sectional study for similarities and differences microscopically.



T.S. of Ureter

(For comparison Gonadal artery considered as it lies side by side to the Ureter).

Similarities in an Artery and Ureter.^{[10][11][12][13][14]}

	Gonadal Artery	Ureter
Shape	Long Tubular	Long Tubular
Colour	Pinkish white	Pinkish white
Texture	Vascular	Vascular
Position/ Course	In between Aamashaya(stomach) and Pakvashaya (sigmoid colon)	In between Aamashaya(stomach) and Pakvashaya (sigmoid colon)
Histology	Lumen round when filled	Lumen round when filled
	3 layers	3 layers
	Inner longitudinal and Outer circular fibres of middle muscular layer	Inner longitudinal and Outer circular fibres of middle muscular layer
Physiology	Peristaltic movement	Peristaltic movement
Nerve supply	Sympathetic trunk T ₁₀ Filaments of Spermatic Plexus derived from Renal plexus	Sympathetic trunk T ₁₀ – L ₁ Parasympathetic trunk S ₂ – S ₄
Embryological development	Mesodermal in origin	Mesodermal in origin

Differences in an Artery and Ureter^{[10][11][12][13][14]}

	Gonadal Artery	Ureter
Content	Carries Blood	Carries Urine
Branching	Further branching is there	No further branching
Histology	Lumen is flat/ oval when empty	Lumen is star shaped when empty
	Innermost endothelial lining	Innermost transitional epithelial lining

At the time of dissection of cadaver the observations are noted as follows:^{[10][11][12][13][14]}

- From the renal pelvis, the Ureters come out and travel downwards behind the peritoneum. When traced down they enter the Urinary bladder.
- Along with the ureters there are different vessels coming down such as, Abdominal aorta, Superior mesentric artery z, Inferior mesentric artery, Gonadal arteries, Internal and external iliac arteries etc.
- But only two, the Ureters gets inserted into posterior inferior aspect of Urinary bladder obliquely.
- Pelvis of Ureter starts just below the greater curvature of Stomach in a Transverse plane antero-posteriorly. And they enter the urinary bladder inferiorly sigmoid colon and in front of rectum.
- The colour of ureters seems just similar to the arteries present just side by side to them.
- Texture of ureter and arteries are same while felt between two fingers.
- The Ureters look like a medium sized artery.

CONCLUSION: The *Gavinis* told in *Atharvaveda* are the two Ureters which flows urine to the Urinary bladder. *The Adhogami Mutravahi two Dhamanis* told

by Sushruta are the Two Ureters only. The *Gavinis* and *Adhogami Mutravahi Dhamanis* are one and the same i.e. Ureters. The *Mutravaha* word should be considered as *Gavini* (Ureters) to understand Ayurvedic *Sharir Rachana Siddhant*, Physiology, *Vyadhi Samprapti* and *Chikitsa paddhati*. These conclusions hopefully will be helpful to understand Ayurvediya *Mutrotpatti Siddhant* and the Disease *Samprapti of Mutravaha Strotas* to decide the perfect treatment in the same for the Clinicians and Ayurveda Scholars.

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CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

“Effect of Shirodhara on Nervous System:An Anatomical approach

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Abstract :-

Human nervous system is responsible for judgement, intelligence and memory. It is the chief controlling and co-ordinating system of the body

Shirodhara is a classical and well established Ayurvedic procedure of slowly and steadily dripping medicated oil or other liquids on the forehead.

This Process Stimulates the Third eye or pituitary gland which awakens our initiative knowledge.

This procedure gives a relaxed expression of awareness that results in a dynamic psychosomatic balance.

Ayurveda the ancient medical procedure has various therapies. One of the astonishing, unique body therapy is shirodhara. Shirodhara has a massive impact on the nervous system. That means this procedure instantly and directly calms, relaxes and have a purifying effect on the mind and nerves.

Shirodhara is an excellent treatment for a compromised nervous system. It can help in providing remedies for symptoms. Of anxiety, stress, fatigue and high blood pressure. ^[1]

Shirodhara is an important therapeutic measure in Ayurvedic system of medicine, which has got world wide popularity because of its purifying and rejuvenating property which is designed to eliminate toxins and mental exhaustion as well as relieve stress and ill effects on central nervous system. ^[2]

Keywords :- Pituitary gland, psychosomatic balance, shirodhara, nervous system, stress.

Introduction :- In Dhara Karma, liquid medicaments like medicated oils, milk, ghee, takra or kwatha are allowed to trickle slowly on the forehead of the patient.

Mode of action of shirodhara :-

When anything pour upon forehead from a certain height, due to change in form of energy, it generates momentum.

The magnitude of momentum is the ultimate factor which decide voltage difference for nerve impulse generation and conduction, if its magnitude is small, energy is absorbed by the skull only.

It is known from the knowledge of modern physiology that there is continuous electrical activity in the brain that generates electromagnetic waves and recorded with the help of Encephalogram [EEG]. ^[3]

The characters of these waves highly depends on the degree of activity of cerebral cortex.

Effect of pressure and temperature in procedure of Shirodhara:-

Shirodhara produce a constant pressure and vibration which is amplified by hollow sinus present in frontal bone. The vibration is then transmitted inwards through fluid medium of cerebrospinal fluid [CSF].

The vibration along with little temperature may activate the function of thalamus and basal fore brain which then bring the amount of serotonin and catecholamine to normal stage.

Thalamus functions as relay centre hence called as functional gateway for cerebral cortex. It is also serves as a centre for reflex activity and integration of motor function.

Pressure also has an effect on impulse conduction. In procedure of shirodhara, prolonged and continuous pressure due to trickling of medicated oil over forehead causes tranquility of mind and reduces stress by modulating nerve progression / stimulation. ^[4]

When nerve ending of autonomic nervous system are stimulated, they produce chemical substance like acetylcholine.

Acetylcholine is a cholinergic neurotransmitter which produces excitatory function of synapse by opening sodium channels. It also inhibits cardiac function and causes vasodilation.

Small doses of acetylcholine causes fall of blood pressure leading to decreased activity of central nervous system resulting in tranquility of mind. ^[5]

During the process of shirodhara, patient concentrates on dhara dravya which is falling on his head, which increases intensity of brain waves and decrease the brain cortisone and adrenaline level.

Adrenaline increases the activity of brain. Its secretion increases during 'fight or flight reaction.' Adrenaline enhances the cortical arousal.

Shirodhara normalizes the two important neurotransmitters serotonin and Norepinephrine which regulates a wide variety of neuropsychological processes along with sleep.

Serotonin (5 – hydroxy tryptamine) is a neurotransmitter, causes mood depression, sleep, vasoconstriction and also has an enormous influence over many brain functions.

Serotonin is found in 3 main areas of body : intestinal wall, large constricted blood vessels and central nervous system. Serotonin is perhaps most implicated in treatment of various disorders including anxiety, schizophrenia, depression, stroke, hypertension, obsessive-compulsive disorders, migraine and vascular disorders. ^[6,7]

Lower level of serotonin resulting in feeling of fatigue, down moods that can turn into depression, insomnia, loss of appetite and many other related issues. ^[8]

Shirodhara bring a calming effect. So one of the mechanisms of action of Shirodhara is by raising the level of serotonin.

Mode of action of Shirodhara :-

1) Tranquilizing effect:- Continuous pouring of oil on head for a specific period of time induces sleep and has a tranquilizing effect. ^[9]

According to modern medicine, local application like ointments may pass through the stratum corneum into blood vessels and reach appropriate organ.

Neurotransmitter can be checked hypothetically if oil percolates in to brain cortex as explained by Johnson while treating the patient of Angina by Nitroglycerine. ^[11]

2) By having effect on hypothalamus, Shirodhara results in decrease of most of the psychic and somatic disorders.

Discussion :-

Shirodhara is one of the oldest Ayurvedic therapy. Warm oil (or other liquid) pelts in a continuous stream over the forehead on an area where nerves are highly centralized. The pressure of the oil onto the forehead produces a vibration.

The oil impregnates the forehead and scalp and impulse into the nervous system. The gentle pressure and controlling warmth of the oil permit the body, mind and nervous system to feel a deep state of rest, similar to meditation.

Regular shirodhara raises blood circulation to the brain, amends memory, nourishes hair and scalp, help in producing sound sleep and quietens the body and mind. Shirodhara is the most efficient treatment for reducing tensions and nervous issues.

Shirodhara scatters negative electrical impulses at the skull and hair line from stress.

Shirodhara is beneficial for all types of psychological and mental disorders. It reduces stress by inducing relaxation and stimulating secretion of more serotonin in the brain. It produces sensations on head which pass through superficial nerves to the brain and brings calmness and relaxation. This calmness and relaxation also results in secretion of more serotonin levels in the brain, which reduce mental stress and helps in depression. ^[10]

Conclusion:-

From above discussion, it can be concluded that Shirodhara is deeply relaxing and induces a relaxant effect. These effects are mediated by brain wave.

Shirodhara work on generation and conduction of nerves impulses and affects activity of cerebral cortex by providing afferent inputs to cerebral cortex leading to a tranquilizing effect.

It modulates the secretion of various neurotransmitters like serotonin and Norepinephrine and hormones by adjusting electromagnetic waves of brain.

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USE OF RASONKALKA IN ADHMANA

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RESEARCH ARTICLE

USE OF RASONKALKA IN ADHMANA

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ABSTRACT:

Nowadays due to lifestyle changes and business or busy schedule in service, many people suffer from digestive system disorders. It may be due to junk foods like pizza, bakery products and many other ready to eat food products, *Vegavrodha*, *Adhyashana* (eating food after meal) *Adhmana* is a common symptom of many digestive system disorders. It may occur as a disease having its own *Samprapti* as given in *Madhav Nadana* in *Vatvyadhi*. Modern medicine does not have satisfactory treatment for it. But in Ayurveda in different *Samhitas* *Rasona* is given as a good *Vataghna Dravya*, as well as it is also useful in *Annavaha Strotasa vikruties*. *Rasona* is *Ushna, Tikshna* and can be used in *Adhmana vyadhi*. In this study we selected 100 patients having *Adhmana* for assessing use of *Rasona*. 50 patients were given *Rasona kalka* along with *tiltaila*. 50 patients were given *sharkara* powder as placebo. Patients were examined for following objective parameters *Adhmana*, *Udarshool*, *Antrakoojan* and *Malavasthambha*. *Rasona kalka* was found very effective in *Adhmana* and *Antrakoojan*.

Key Words: *Adhmana, Rasona, Kalka, Vatvyadhi*

INTRODUCTION

Ayurveda is a science of life and it is useful in maintaining *Arogya* by following *Dincharya* and *Rutucharya*. But whenever there is *Mithya Ahara Vihara*, person may suffer from different *Vyadhis* according to *khavaigunya* and *Doshdushya Sammurchana*. Intake of *Vatprakopak Ahara* like – *Turi* (pigeon pea), *Vatane*(peas), *Matar* (green peas), *Khaskhas*(poppy seeds), *Harbara*(gram), *Kalingad*(watermelon), *Peru* (guavas), *Chavali*(cowpea), wafers, Toast, dried powder of different leafy vegetables, sitting job, working at late night, regular use of fast food ;causes *Agnidushti* [1] and then *Adhmana* [2]. As well as *Vegvidharana*, *Atichankramana* may cause *Vatprakopa*. *Rasona*(*Allium Sativum*) is *Snigdha, Tikshna* [3], *Pichhil, Guru* and *Sara*. *Rasona* contains *Amlavarjeet Panchrasa*. There is *prablya* (mainly) of *Madhura* and *Katu Rasa*. Due to these *Gunas Rasona* (*Allium Sativum*) is *KaphaVataghna* [4]. It is used in many diseases. It is useful in various diseases of *Annavaha Strotasa*, as it is *Amapachaka*. *Adhmana* is mainly *Vatvyadhi* due to *Agnimandya*, therefore *Rasona* can be used in the treatment of *Adhmana*.

AIM AND OBJECTIVES

The present research work has been under taken with the following aims & objectives:

- 1) To study *Adhmana Vyadhi*.
- 2) To study use of *Rasona*.
- 3) To study use of *Rasona* in *Adhmana Vyadhi*.

MATERIALS AND METHODS

Total 100 patients were selected and studied. (Ethical committee of CSMSS Ayurved College, Aurangabad permitted this study on date 11/01/2014) These patients were selected in 2 groups of 50 each. The patients were treated for 15 days.

- 1) 50 patients were given *Rasona kalka* [5] along with *tiltaila*.
- 2) 50 patients were given *sharkara* powder as placebo.

Selection of Patients:

The patients were selected as per following criteria

Inclusion criteria:

- Age group: above 18 years
- Sex: both male and female
- *Lakshnas*: Patients having signs and symptoms of *Adhmana*.

Exclusion Criteria:

- Age: below 18 years
- Sex: Pregnancy and lactation.
- Diseases: known cases of Diabetes Mellitus, Hypertension and Peptic ulcer.

Objective Parameters

Patients were examined for following objective parameters

Adhmana: present or absent
Udarshool: present or absent
Antrakoojan: present or absent
Malavasthambha: present or absent

Follow up chart

Follow up was taken on First day, Fourth day,

Seventh day, Fifteenth day

A case proforma was prepared. Patients were selected according to specified criteria. Selected patients were examined accordingly with detailed history taking and *Strotas Parikshana*. Patient examination consisted *Ashtavidha Pariksha* and examination of abdomen. Out of 100 patients selected, 50 were asked to consume one gram of *Rasona Kalka* in *madhyabhukta avastha* (during meals) twice a day for fifteen days. Remaining fifty patients were given placebo, and were asked to

consume with meal 1 gm twice daily. All patients were asked to visit on fourth, seventh and fifteenth day. On visit every patient was examined according to criteria.

Drug dose: 1 gm *Rasona Kalka* twice daily in *madhyabhukta avastha* (during meals).

Anupana: Tila taila.

Duration: 15 days

OBSERVATION

Table 1: Adhmana

Cure grade	Total relief	Moderate	Mild	No relief	Total
Group I	30	8	7	5	50
Group II	00	10	5	35	50
Total	30	18	12	40	

Table 2: Udershool

Cure grade	Total relief	Moderate	Mild	No relief	Total
Group I	25	10	7	8	50
Group II	00	8	5	37	50
Total	25	18	12	45	

Table 3: Antrakoojan

Cure grade	Total relief	Moderate	Mild	No relief	Total
Group I	32	6	6	6	50
Group II	01	10	4	35	50
Total	33	16	10	41	

Table 4: Malavastambha

Cure grade	Total relief	Moderate	Mild	No relief	Total
Group I	15	8	7	20	50
Group II	00	6	6	38	50
Total	15	14	13	58	

Statistical test CHI SQUARE TEST

For application of Chi Square Test Patients having total and moderate relief were considered as cured, while those who had mild or no relief were considered as not cured, for the ease of calculation.

Table 5: Adhmana:

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	38	12	50
Control	10	40	50
Total	48	52	100

Table 6: Statistical Table

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	E 24	E 26	50
	O 38	O 12	
	D 8.17	D 7.54	
Control	E 24	E 26	50
	O 10	O 40	
	D 8.17	D 7.54	
Total	48	52	100

Chi square=31.42

Table 7: *Udershool*

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	35	15	50
Control	8	42	50
Total	43	57	100

Table 8: Statistical Table

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	E 21.5	E 28.5	50
	O 35	O 15	
	D 8.48	D 6.40	
Control	E 21.5	E 28.5	50
	O 8	O 42	
	D 8.48	D 6.40	
Total	43	57	100

Chi square=29.76

Table 9: *Antrakoojan*

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	38	12	50
Control	11	39	50
Total	49	51	100

Table 10: Statistical Table

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	E 24.5	E 25.5	50
	O 38	O 12	
	D 7.44	D 7.15	
Control	E 24.5	E 25.5	50
	O 11	O 39	
	D 7.44	D 7.15	
Total	49	51	100

Chi square=29.18

Table 11: *Malavastambha*

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	23	27	50
Control	6	44	50
Total	29	71	100

Table 12: Statistical Table

Cure grade	Cured	Not cured	total
<i>Rasona Kalka</i>	E 14.5	E 35.5	50
	O 23	O 27	
	D 4.98	D 2.04	
Control	E 14.5	E 35.5	50
	O 6	O 44	
	D 4.98	D 2.04	
Total	29	71	100

Chi square=14.04, Table value is 3.84

Since the calculated value of Chi-square is greater than the table value, the test is highly significant statistically and hence the null hypothesis is rejected. So, there is strong association between the type of treatment and cure rate.

Thus it is found that *Rasona Kalka* is effective in the treatment of *Adhmana*. It especially relieves *Adhmana* and *Antrakoojan* while it is also useful in relieving *Udershool* and *Malavastambha*.

Table 13: Overall Results

Symptom	Cured	%	Moderately Cured	%	Mild Cured	%	Uncured	%
<i>Adhmana.</i>	30	60	8	16	7	14	5	10
<i>Udershool</i>	25	50	10	20	7	14	8	16
<i>Antrakoojan</i>	32	64	6	12	6	12	6	12
<i>Malavasthambha</i>	15	30	8	16	7	14	20	40

There is significant reduction in symptoms like *Adhmana* (60 % patients) and *Antrakoojana* (64 % patients), *Udershool* is also relieved in 50 % patients, while *Malavasthambha* is moderately reduced i.e. in 30 % patients.

DISCUSSION

Out of 50 patients who were given *Rasona Kalka* 32 patients got total relief from *Antrakoojana*, while 30 patients got total relief from *Adhmana*, 25 patients got total relief from *Udershool*, while 15 patients got total relief from *Malavasthambha lakshana*. In the same group 12 patients got mild to moderate relief from *Antrakoojana*, while 15 patients got mild to moderate relief from *Adhmana*, 17 patients got mild to moderate relief from *Udershool*, while 15 patients got mild to moderate relief from *Malavasthambha lakshana*. In the same group 20 patients did not have any relief from *Malavasthambha*. Thus we find that *Rasona Kalka* given in *Adhmana* patients significantly reduces *Adhmana*, *Antrakoojana*. Moderately reduces *Udershool* and slightly helpful in *Malavasthambha lakshana* of *Adhmana*. *Rasona* is *Snigdha*, *Tikshna* and *Sara*; due to which it is effective in *Adhmana*, *Udershool* and *Malavasthambha Lakshana*. Due to its *Vatghnatwa*

it is effective in *Antrakoojana*.

CONCLUSION

Rasona Kalka is definitely helpful in the treatment of *Adhmana*. It mainly relieves symptoms like *Adhmana*, *Antrakoojana*. *Rasona Kalka* also relieves other symptoms like *Udershool* and *Malavasthambha*. *Rasona* is easily available and can be consumed easily. It also cost effective. Also it has other qualities helpful for health. *Rasona* should be used with caution in *Pittaprakruti* Persons and in hyperacidity, Peptic Ulcer. These results of *Rasona* are encouraging and further research is necessary.

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ABSENCE OF CARDIAC NOTCH IN LEFT LUNG- A CASE STUDY

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ABSTRACT

This is a case study of absence of cardiac notch in anterior border of left lung met at the time of dissection of cadaver nearly 40 year old Indian male having changes in left lung in anatomy department. In which, the left lung didn't have cardiac notch and right lung seemed normal.

Key words: Absence of cardiac notch, left lung, right lung, anterior border.

INTRODUCTION

The respiratory system is meant primarily for the oxygenation of blood. The chief organ of the system is the right and left lungs. The lungs lies in the corresponding halves of the thorax.They are separated from each other by structures in the mediastinum. In young, the lungs are brown or gray in color. Gradually they become mottled black. Each lung is conical in shape. It has apex, base and three borders - anterior, posterior and inferior. Anterior border of right lung is vertical. In left lung anterior border shows a wide cardiac notch below the level of the fourth costal cartilage the heart and pericardium are uncovered by the lung in the region of this notch. [Area of superficial cardiac dullness]

Lung has two surfaces - costal, medial. Medial surface is divided into vertebral and mediastinal. Right lung is divided into three lobes by two fissures; oblique and horizon-

tal. Left lung is divided into two lobes by oblique fissure^[1]. In this case there is absence of cardiac notch on the anterior border of left lung. The anterior border of the right lung was normal.

METHODOLOGY: During a routine dissection at the department of Anatomy at CSMSS Ayurved Mahavidyalaya, Aurangabad absence of cardiac notch in left lung was observed. The cadaver donated to the department of Anatomy was that of 40 year old Indian male.

After dissection of anterior wall of thorax, the ribs were cut by the rib cutter, scalpel etc from mid axillary line^[2]. The lungs with pleura were studied. After separating the paritalpleura,lungs were observed. While studyingthe anterior border of left lung, itdid not have cardiac notch on its anterior border.

OBSERVATION: After removal of anterior thoracic wall on the anterior border of left lung cardiac notch was absent. Remaining

structures of left lung were normal and right lung were normal.

Right lung

- Shape - Conical in shape.
- Apex was blunt and lied above the level of the anterior end of the first rib.
- Base was semilunar, concave and formed by lower lobe.

Fissure – 2

- Oblique fissure
- Horizontal fissure

Lobes – 3

- Upper lobe
- Middle lobe
- Lower lobe
- Oblique fissure cuts into the whole thickness of the lung except the hilum.
- Horizontal fissure passes from the anterior border up to the oblique fissure and separated a wedge shaped middle lobe form the upper lobe.

Border –2 Anterior border was very thin it was shorter than the posterior border[figure 1].

Surface-2

- Costal surface was large, convex. It was in connection with the costal pleura and overlying thoracic wall.
- Medial surface was divided into two parts - vertebral and mediastinal.
- Vertebral part was concave and related to vertebral column, vertebral bodies and intervertebral disc.

Mediastinal part is related mediastinal septum, cardiac impression.

DISCUSSION:

The cardiac notch is present on the anterior border of the left lung. It is produced to accommodate the space taken up by the heart and it leaves a small anterior area of pericardium in direct contact with the sternum; this area is dull to percussion - the area of superficial cardiac dullness^[4](unlike the surrounding regions where overlying lung makes the percussion note relatively resonant).

Surfaces – 2 Costal surfaces was convex. It was connected with the costal pleura and the overlying thoracic wall. Medial surface was divided into two parts - Vertebral and Mediastinal part.

- Vertebral surface was concave and related to vertebral column, vertebral bodies and inter vertebral disc.
- Mediastinal surface was related mediastinal septum.

Left lung

Shape - Conical in shape

Apex was blunt and lies above the level of the anterior end of the first ribs

Base was semilunar and concave.

Fissure -1 Oblique fissure

Lobe -2

Upper lobe

Lower lobe

Border- 2

Anterior border was thin,vertical as the anterior border of right lung and there was absence of cardiac notch[Figure-2].

Posterior border was thick and ill defined.

CONCLUSION:

The cardiac notch helps to accommodate the space taken up by the heart between two lungs. It is of great importance in various procedures like ultrasound examination, Percussion, auscultation, pericardial and cardiac puncture. In the absence of cardiac notch on the anterior border of left lung, the heart is completely covered by left lung. It may cause some resistance in normal contraction and relaxation of heart due to overlapping left lung. It may cause hindrance during examination and procedures like ultrasound examination, Percussion, auscultation, pericardial and cardiac puncture^[5].

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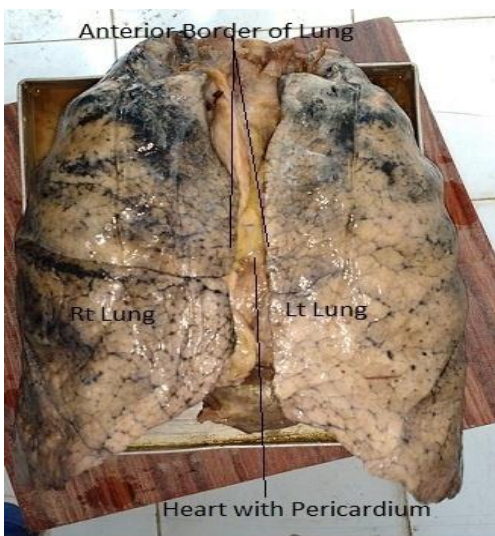


Figure-1

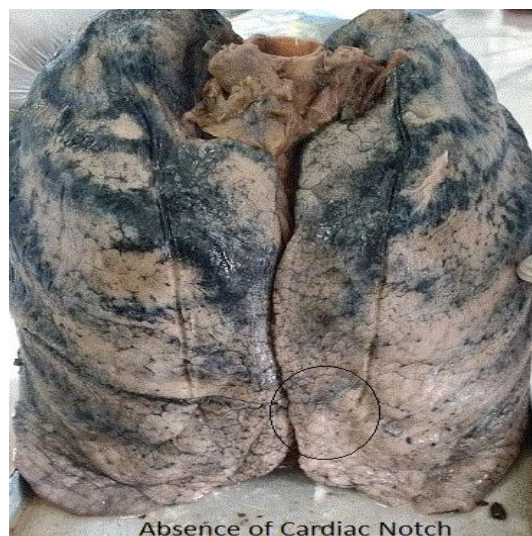


Figure-2