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PHYSIO-PATHOLOGICAL REVIEW OF ARSHA W.S.R. TO IT'S ANATOMY

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ABSTRACT

Arsha (Piles) is an extremely common disease and it has been reported since many years and its prevalence rate is highest among all anorectal disorders. *Arsha* (Piles) are unique to human race. Nearly half of the population generally experience one haemorrhoidal episode at some point during their life span. *Arsha* (Haemorrhoids) is a clinically an engorgement of haemorrhoidal venous plexus with abnormally displaced enlarged anal cushion. It is characterized by inflammed or prolapsed pile mass, bleeding per rectum and some discharge from anus. The term haemorrhoids is used to refer for pathological varicosity of the haemorrhoidal veins due to increased pressure in plexuses, which is usually resulted by straining during defecation, chronic constipation or diarrhoea, pregnancy etc. In modern medical science, many surgical and non-surgical procedures are described for management of haemorrhoids. Among them haemorrhoidectomy is commonly preferred by surgeons, but after sometime of excision there is great possibility of reappearance of the disease. But in Ayurveda fourfold management of *Arsha* has been indicated by Acharya *Sushruta* as *Bheshaj, Kshar Karma, Agnikarma* and *Shastra Karma* according to chronicity and presentation of the disease. Among these, *Bheshaj Chikitsa* and *Kshar Karma* as show wonderful results in management of *Arsha*.[1]

KEYWORDS: *Arsha*, *bheshaj karma*, *kshar karma*, haemorrhoids.

INTRODUCTION

Arsha / Haemorrhoids, also called piles, are vascular structures in the anal canal. In their normal state, they work as cushions that help with stool control. They become a disease when swollen or inflamed or get bigger. The signs and symptoms of haemorrhoid depend on the type presentation. Internal haemorrhoids are usually painless, bright red rectal bleeding when defecating. External haemorrhoids often result in pain and swelling in area around the anus. It is manifested due to disturbed life style or daily routines, irregular or improper diet intake, prolonged standing or sitting, faulty habits of defecation etc. Haemorrhoids are usually found in 3 main locations, right anterior, right posterior and left lateral. *Arsha* is being described by all the classical literature of *Ayurveda* and also in modern medical literature, *Acharya Sushruta* even placed this disorder in the Astha Mahagad. *Arsha* occurs in *guda* region, which is a *sadhyapranahara marma*. *Mithya-ahaarvihar* and sedentary life style result in disturb of *jatharagni* leading to vitiation of *tridosa*, mainly *vata dosha*. These vitiated *doshas* get localized in *guda vali* and *pradhan dhamani* which further vitiates *twak, mansa, and meda dhatus* due to *Annavha sroto dusti* lead to development of *Arsha*.

The concept of *Guda*

The word *Guda* is derived from:

"***xqn~ fdzMk;ke~ rk xq eyksRlxsZ***"

That means the body part which does the act of *Malotsarga* is *Guda*.[2]

According *to* ***Ayurveda Shabdakosha***:

"xnrs Hksyrs pyfr ok viku ok;q vusu bfr xqne~"[3]

It means an organ which evacuates the *apana vayu* is known as *guda*.

In various *ayurvedic* text, the term *guda* is used to denote the anus and rectum. Most of the *Acharya* have used this term to refer an organ which performs the function of defaecation. They have even described the embryological derivation and development of *guda*, and other body organs in *Sharira Sthana*. Inspite of lack of facilities in older days the Acharya's had remarkable sense of assessment and depth knowledge of the human anatomy and physiology on the basis of their knee observation, had described about guda very nicely.

Synonyms of *Guda*

There are different synonyms for *guda*, used in different ayurvedic classics. Most are mentioned as follows:

- *Apanah*
- *Bradhanah*
- *Mahat Srota*
- *Payu*
- *Vitmarga*

Hemadri, commentator of *Ashtanga Hridaya* has clearly mentioned that *payu* means *guda*.
Vijayarakshita in *Madhavanidana* has used *apanah* and *mahat srotas* to indicate *guda.*
Acharya Gangadhara has used the term *bradhanam.*
Acharya Vachaspati in *Madhavanidana* has described it as *vitmarga.*

Location of *Guda*

Charak divided *guda* into two parts i.e. *uttar guda* and *adhara guda* and classified it among one of the 15 *koshthang*.[5] *Chakrapani* says the *uttar guda* is an organ in which *purish* (faeces) is collected while *adhar guda* is meant for excretion of faeces.

According to *Sushruta*, it is attached to *sthulantra* (large intestine) and is one of the organ comes in relation with *vasti*. *Sushruta* says that *Vasti* is located among *Nabhi*, *Pristha*, *Kati*, *Mushka*, *Guda*, *Vankshana* and *Shepha* and *Vasti*, *Vastishira*, *Vrishana* and *Guda* are all interconnected with each other. All above mentioned organs are situated in *Gudasthivivara* (pelvic cavity).[6]

Measurement of *Guda*

According to *Acharya Sushruta* the length of the *guda* is 4½ *angula*.[7]
Acharya Vagbhatta has also told measurement of *Guda* as *swapanitala*.[8]

Description of *Guda Vali*

Most of all ancient *Acharyas* as *Acharya Sushruta* have mentioned the presence of three *vali* inside the *guda*. The word *vali* means spiral ring or projection like structure.

In *Sushruta Samhita* and *Ashtanga Hridaya*, these *vali* are described in detail. In *Sushruta Samhita*, it is described that there are three *vali* in *guda*, which are situated at the distance of

one and half fingers from each other. From inside to outside, these are *Pravahani*, *Visarjani* and *Samvarani*. They occupy total four fingers length. They are spiral projections lying one above the other. They have the colour resembling to the palate of the elephant.[8] More specific description about *Vali* is found in *Ashtanga Hridaya*. According to this *Samhita, Samvarani* is the distal one. The end area of *guda* is devoid of hair and occupies one and ½ *yava* (half finger) space (3 *yava* = 1 *Angula* = approximately 2 cm). It is called *gudaushtha.* The first *vali (Samvarani)* is situated one finger away from this *gudaushtha*. The other two *vali* are situated at the distance of one and a half finger from each other.[10] Also in *Sharangdhar Samhita* these three *valis* are named as *Pravahani*, *Sarjani* and *Grahika.*

Acharya Gananatha Sena has added some more details, while describing the functions of these three *Vali*, viz. *Pravahani* (the proximal) compresses the faecal material downwards i.e. *Pravahana*. *Visarjani* does the relaxation of the rectal wall and helps in excretion of the faeces i.e. *Visarjana*. *Samvarani* keeps the anal opening closed i.e. *Samvarana*, by the contraction when the defaecation is over. May be *Gananatha Sena* has considered the distal two Houston's valves as *Pravahani* and *Visarjani* and the area of internal and external sphincters as *Samvarani vali*. According to some authors, the 3 Houston's valves can be correlated with three *vali* due to their spiral nature and corresponding number. But this correlation does not seem to be right, as the length of the anus is 3.80 cm and the length of rectum is 15 cm, which can be divided in three parts upper, middle and lower. The length of anus according to *Ayurveda* is *4* and ½ *angula*, which is approximately 9 cm. If we correlate the Houstan's valves with the *vali*, the length *of guda* goes beyond 9 cm, which is incorrect.

Other references of *vali* are as follows

According to Sharma et.al. (1968) the description of *guda* and *vali* in terms of measurements is quite clear. Therefore, the demarcations have to be sought within the lower half of the ano-rectal canal. However, as they give rise to pile masses, the veins in that region, when engorged, may form a prominent and give the impression of these *valis*, but they are not the normal structures. The areas from anal margin to dentate line has been considered as *Samvarani vali*, area where columns of Morgagni protrude into the rectum is considered as *Visarjani vali* and deepest Houston's valve has been considered as *Pravahani vali.*

Singhal et.al. (1975) have stated for these *vali* as sphincters. Anatomically, the length of *guda* is 4 and ½ angula or 9 cm and its important structures are the three *vali* and the end part is *Gudaushtha.*

Classification of *Arsha*

There are different Acharyas have their own openion regarding the classification of *Arsha*.

On the basis of the predominance of dosha[11]

1. *Vataj*
2. *Pittaj*
3. *Kaphaj*
4. *Raktaj*
5. *Sannipataj*
6. Sahaj

According to origin 2 types of *Arsha*[12]

1. *Sahaj*
2. *Kalaja*

Further *Arsha* is classified in 2 type[12]

1. *Shukarsha*
2. *Ardraarsha*

Anatomy of Anal Canal[13]

The lining of anal canal differs in its three zones of 15+15+8 mm from above to downwards. The lining of lower part of rectum is pinkish yellow and semi-transparent to the extent that the pattern of superior rectal artery branching can be seen through it.

Terminal part of intestine is anal canal. It is situated between the rectum and anus, below the level of the pelvic diaphragm. The anal canal starts from the points where rectum ends. Ampulla of rectum suddenly narrow above and from there, anal canal begins. It lies in the anal triangle of perineum in between the right and left ischiorectal fossae which allow its free expansion during passage of faeces. It develops both from ectoderm and endoderm, the junction is indicated by the pectinate line (anal valves). On an average, anal canal is 38 mm long in an adult male. At rest, the lumen is like an anteroposterior slit.

Relations of Anal canal

Posteriorly - coccyx, fibromuscular anococcygeal raphe

Laterally - Ischiorectal fossa on the either side which contains fat, inferior haemorrhoidal vessels and nerves.

Anteriorly

A) In male - Perineal body, urogenital diaphragm, membranous part of urethra and the bulb of penis.

B) In female - Perineal body, urogenital diaphragm, lowest part of posterior vaginal wall

Mucocutaneous Lining of Anal Canal

This can be divided into 3 parts

1. Upper Part

It extends from anorectal ring to the pectinate line approximately 15 mm long. It is lined by columnar epithelium of endodermal origin. The mucous membranes show anal valves, anal sinuses, anal papillae and pectinate line. Anal glands are 4-8 in number and each has direct opening into apex of anal crypt and occasionally two glands open into same crypt.

2. Middle part

The lining of anal canal consists of an upper mucosal and a lower cutaneous part, the junction of the two being marked by the line of anal valves about 2 cm from the anal orifice and opposite the middle or the junction of middle & lower third of internal sphincter. This level is known as Dentate/Pectinate line due to its serrated fringe produced by valves. Above each anal valve is a little pit or pocket known as anal sinus or crypt or sinus of Morgagni. These sinuses may be of surgical significance as foreign material may lodge in them to cause resulting infection.

Above the pectinate line, the mucosa is thrown into 8-14 longitudinal folds known as rectal columns or columns of Morgagni, each adjacent two columns being connected below at the pectinate line by an anal valve. For 1 cm or so above line, the mucosa is a deep purple colour but about the anorectal ring it changes to the pink colour of rectal mucosa. Below the pectinate line, the anal canal is lined with a modified skin devoid of hair and sebaceous and sweat glands and closely adherent to the underlying tissues.

Anal glands are 4-8 in normal anal canal, each has a direct opening into apex of an anal crypt and occasionally 2 glands open into the same crypt. About half the crypts in any anal canal have no gland communicating with them. The average gland has a short tubular portion in submucosa, and some with one or more branches enter the internal sphincter and some with branches across this sphincter completely to reach the inter-sphincteric longitudinal layer. The general direction of extension of the glands is outward and downward but practically

never upward above the level of anal valves. They may provide an avenue of infection from the anal canal to the submucous and inter-sphincteric spaces. They may also be the site of origin of an adenocarcinoma (Parks, 1961).

Pecten is the second, 15 mm long zone below the anal valve and is also called as transitional zone as the lining epithelium changes from columnar to stratified squamous and intermediate pattern distributed as a mosaic. The transitional zone overlies the part of internal rectal venous plexus and therefore is bluish in colour. The transitional zone ends at white line of Hilton (which is never white). White line of Hilton is a groove between junction of internal anal sphincter above and sub cutaneous part of external anal sphincter below.

The zone below the white line is about 8 mm long and resembles the skin of the surrounding region. At the time of defaecation, white line of Hilton moves down and forms the lower most border of anal canal as a ring.

Classification according to the prolapse[14]

1st Degree-no prolapse bleeding per rectum.

2nd Degree-prolapse on defecation spontaneous reduction, something coming down and going back.

3rd Degree-prolapse n defecation requires manual reduction, bleeding mucus discharge, pruritus.

4th Degree-permanent prolapse, acute pain, throbbing discomfort.

Depending upon the Anatomical positions

1. Internal haemorrhoids-above the dentate line, covered with mucous membrane.
2. External haemorrhoids- at anal verge, covered with skin
3. Interno-external-both varieties together respectively.

Classification According to Position of *Arsha*

Primary haemorrhoids are in three classical positions as 3, 7, 11 o clock. They are called as left lateral, right anterior and right posterior in anal canal.

New Proposed Classification of Haemorrhoids \According to ACRSI[15]

Grade I Remaining inside the anal canal

Grade II Protrude during defecation and reduce spontaneously

Grade III Need further manual reposition

Grade IV Piles that remain prolapsed outside and external haemorrhoids

Each of the above primary grades of haemorrhoids is categorised further, depending on number of piles, and presence of circumferential piles or thrombosis, by the suffix as below:

a. Single pile mass

b. Two piles but <50% circumference

c. Circumferential piles occupying more than half circumference of the anal canal

d. Thrombosed or gangrenous piles (complicated)

Pathophysiology of Haemorrhoids[16,17]

Concept of Anal Cushion

It was thought, that haemorrhoids are varicose veins, but it's not true. Everyone does not have haemorrhoids. But everybody has anal cushions. The anal cushions consist of mainly 3 structures, viz (A) Blood vessels (B) Smooth muscle (Treitz's muscle), and (C) Elastic connective tissue in the sub mucosa.

Anal Cushions are normal anatomical structure. Its presence is found in children, foetus and even in the embryo.

Location of Anal Cushion

- Primary Anal Cushion- They is 3 in number, located in the upper anal canal, between anorectal ring (puborectalis muscle) and dentate line. Their sites are constant: left lateral, right anterolateral and right posterolateral.
- Secondary Anal Cushion- may be present between the main cushions

Anal Cushion Theory

Main movement of musculus submucosae ani (Treitz's muscle) and its richly intermingled elastic fibres is anchoring and flattening. When it is disrupted, result in prolapse. So sliding downward of the anal cushions is the correct etiological theory of Haemorrhoids. Secondary manifestations are hypertrophy and congestion of the vascular tissue. Haemorrhoids are associated with straining and an irregular bowel habit. These both features are compatible with above theory. Tenesmus from diarrhoea and hard, bulky stools, cause straining. That cause engorgement of the cushions, which lead to pushing out of cushions while defecation. Submucosal Treitz's muscle may disrupt also due to repeated stretching and results in prolapse of cushion.

ARSHA SAMPRAPTI

According to *Charak*[18]

A) *Kulaj Arsha*

Afflicted with these (congenital piles), one is, from the very birth, too lean, with abnormal complexion, exhausted, having anxious expression, flatus, urine and stool copious as well as constipated, susceptible to the disorders of gravel and stone, irregularly constipated and passing ripe and unripe, dry and loose stool; from time to time passing stool as white, pale, green, yellow, red, reddish, thin, thick, slimy with fleshy odour and unripe; having intense cutting pain in umbilical, pelvic and inguinal regions, afflicted with anorectal pain, dysentery, horripilation, polyuria, retention (of urine and stool), distension of abdomen, gurgling sound in abdomen, upward movement of vāyu, plastering of heart and sense organs; excessive and obstructed bitter and acid eruption, extremely weak, with extremely poor digestion, having scanty semen, irritable, manageable with difficulty, often afflicted with cough, dyspnoea, feeling of darkness, thirst, nausea, vomiting, anorexia, indigestion, coryza and sneezing, with blurred vision having headache, with voice as feeble, hoarse, depressed, mingled and broken: having ear disorder, swelling in hands, feet, face and orbital brim, fever, body-ache, pain all over the joints and bones: in between afflicted with constriction in sides, belly, pelvic region, heart, back and sacral regions; always thinking and too idle, Since birth his apāna vāyu covered with piles and obstructed in its passage moves upwards and vitiates other types of vata (samana, vyāna, präna and udāna), as well as pitta and kapha. All these vitiated five types of vāyu, pitta and kapha inflict the diseased person and produce the above disorders, thus are described the congenital piles.

B) *Sahaj Arsha*

Due to intake of heavy, sweet, cold, channel-blocking, burning, antagonistic, uncooked, too little and unsuitable food: eating meat of cow, fish, boar, buffalow, goat and sheeps constant use of decomposed dried and foetid meat, preparations of flour, rice cooked with milk, milk, curd. Cum and products of sesamum and jaggery, use of black gram soup. sugarcane juice, oil cake, tubers, dried vegetables, vinegars, garlic, inspissated milk, solid portion of buttermilk, lotus rhizome and stalk, seeds of water lily, kaseru, Srngataka, tarata, germinated or fresh awned cereals and legumes and uncooked radish, intake of heavy fruits and vegetables, pickles, salads, mardaka (a dietary preparation) fat, head, feet, stale, putrified, cold and mixed up food, intake of immature curd and deranged wine, use of defective and heavy water: excessive intake of uncting substances; avoiding evacuation, faulty application

of enema :abstaining from physical exercise and sexual intercourse, day-sleep, use of comfortable bed, chairs and seat the agni (digestive fire) gets suppressed and excrements are accumulated in excess. Thereafter by sitting in squatting posture and on uneven and hard seat, journey on irregularly moving vehicle or camel, excessive sexual intercourse, introducing the enema nozzle improperly, tearing in anorectal region, frequent contact of cold water, rubbing with cloth, clod, grass etc., constant and excessive straining, impelling the urge of flatus, urine and stool forcibly, suppression of impelled urges, in women by abortion, foetal pressure and difficult labour: apāna vayu gets vitiated and coming in contact of the down-tending accumulated excrement carries it to the anorectal folds, thus the piles manifest in them.

According to *Sushruta*[19]

In persons who are not self-control (regarding foods and activities), who indulge in things which aggravates the doṣhas such as, use of incompatible, foods, over-eating. more of copulation, sitting on ones heels, riding on animals, suppression of the urges of the body etc especially the dosas getting aggravated either individually or in combination of two or all three or together with blood, spread out and travelling through the main dhamani (arteries-blood vessels) in the downward direction reach the *guda* (rectum) and produce sprouts of muscle in the *gudavali* (tolds of the rectum) especially in persons, who have weakness of digestive power: these sprouts grow in size due to contact (friction) by grass, sticks, stone pebbles and lumps of cloth etc. or by touch of cold water; these sprouts are called *Arsha*s (pile masses).

CONCLUSION

The disease described as *Arsha*s in *Ayurvedic* literature can be resemble as Piles or haemorrhoid in modern medical science. *Arsha*s are classified on the source of character, origin, location, shapes, *doshas*, whereas modern classification is on their site of origin, pathological anatomy and management. The causative factors described in *Ayurveda* are almost same as Modern science like constipation and straining, occupation and heredity etc. According to *Acharya Sushruta doshas* vitiated along with *Rakta dosha* and they travel downwards through *pradhan dhamani* to reach *guda* (anal canal). The factors cause obstruction in haemorrhoidal veins it can be termed as *Sanga* of *rakta* and it leads to *srotodusti* that causing *Arsha*s.[20]

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