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RESEARCH ARTICLE

UNDERSTANDING PUREESH VAHA SROTAS W.R.S. TO RECTUM: A LITERARY REVIEW.

Pankaj Rajvanshi.

Assistant Professor, PG Department of Rachna Sharir (Anatomy), H.A.M.C. & H, Dehradun.

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Abstract

Mala represent the third member of the trinity of the living body. Purish is the faeces and it is also known as "vit" and "mala". It represents in part, the undigested residue left over after the nutrient fraction of the food has been separated and absorbed. The study reviews the scattered literature on the *Guda marma*, *pureesh waha srotas* and related contemporary anatomy and physiology books for the anatomical and physiological understanding of rectum to provide their scientific evidences for considering *pureesh waha srotas* as Rectum. As per the review, one portion of rectum is used for the formation of *purisha* (*pakvashaya*) and other portion is used to help in defecation by receiving the defecation signals from rectum (*sthoor antra*) to be used in initiation of defecation reflex (*guda* and *sthoora guda*) So it can be concluded that one portion of *purishvaha srotas* is involved in the formation of *purish* and other portion is involved in defecation process for the expulsion of flatus and faeces. Hence the present study can be used in understanding *sroto viddha lakshana* and other *sroto dusthi* symptoms and their management with reference to rectum.

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Introduction:-

Mala represent the third member of the trinity of the living body, the other two members being the *dosha* and *dhatu*ⁱ. Word *mala* represent a wide variety of substances produced by the body, including *tridosha* and *sapta dhatu* in their abnormal states of functioningⁱⁱ.

Generally, *mala* are stated to comprise of *shakrit* (faeces), *sweda* (sweat), *mutra* (urine) etc. Two aspects of *mala* have been visualized viz., *mala* and *kitia*. The former represents waste products in general, of which some may be utilized by the body for its functional and structural purposes and other meant to be discarded. The *kiita* term has been derived from the root 'kitta gatau', meaning, "To go" and it generally refers to the waste products of the *dhatu*s. Likewise the undigested residue or the *asara* of the lbw. Which is expelled out of the *pakvashaya* under the influence of *apan vayzi* through the three *valis* (fold) of the rectum is spoken of as the *mala* or *purish* or *vit*.³

Purish is the faeces and it is also known as "vit" and "mala". It represents in part, the undigested residue left over after the nutrient fraction of the food has been separated and absorbed.ⁱⁱⁱ

Corresponding Author:- Pankaj Rajvanshi.

Address:- Assistant Professor, PG Department of Rachna Sharir (Anatomy), H.A.M.C. & H, Dehradun.

Aim of Study:-

This review aims at scanning the scattered literature on the *Guda marma*, *pureesh waha srotas* and related contemporary anatomy and physiology books for the anatomical and physiological understanding of rectum to provide their scientific evidences for considering *pureesh waha srotas* as Rectum.

Method:-

Classical texts of Ayurveda as well as PUBMED, MEDLINE database were used for the search of relevant literature and research papers. Papers published between Jan 1960 to Jan 2015 were only considered. The key words used for the search was 'Ayurveda', '*Guda marma*', '*pureesh waha srotas*', 'Rectum' and 'excretory system' etc. Literary review, conceptual studies as well as anatomical books were included in the review along with classical texts and published contemporary books on *Sharir kriya* and *rachna sharir* were included. Only research articles published in English language were considered.

Discussion:-

The *srota*, which carry the purish, or faeces are called as "*purish waha srotas*". The whole description related to *purish waha srotas* till vedic period is given below:

Atharva Veda: The description of *mala* is present here as excreta of body. Other description of *mala* is present in reference to "*rujayakshma roga*" as *mala* is present in intestine. Large intestine is defined, as *vanisthu*. *Guda* and *vanisthu* both of them should be cured to "*rajayakshma yoga*"^{iv}. Other description, which is related to *purish waha srotas* are — (i) description of *nadi* of *guda* and *antra*'s. (both large intestine and small intestine)^v; (ii) description of *asthi* which is present behind the *guda*^{vi}; (iii) God of *vanisthu* (large intestine) is "*era*"^{vii}, and God of *guda* is *devajan*^{viii} (iv) *Guda* is described as external aperture^{ix}. In Veda, the description of *samara vayu* and *apan vayu* is also present^x.

Shukla Yajurveda: In *Shukla yajur Veda* the process of digestion and *dhatu poshana* are related to the *maha srotas*, *rasavaha srotas* and *rakta waha srotas*. In this description, the term *anthra* has defined as large intestine and small intestine. *Guda* and *antra* are the parts of *maha srotas*.^{xi}

Chandigaeoupanishad— The present description has pointed that after Digestion of ingested food, it is divided into three parts that is: (1) *Purish* (*vistha*); (2) *Rasa etc.* seven *dhatu*s; (3) Small part for *mana*. Drunk water is divided into three parts that is: 1- *Rakta*, 2- *Prana*, 3- *Mutra*.^{xii} *Subalaoupanishad*— The present description has mentioned that main function of *guda* is *viserjan*, and it is joined to *nadi* (*sthulantra*)^{xiii} *Yogachudamanioupanishad*— The present description has mentioned that *Annan vayu* is found in *nabhi* region and *apan vayu* is found in *guda* region^{xiv}. *Yogakundaloupanishad*— According to this Upanishad in *nabhi*, *manipur chakra* is present and in *Buda*, *muladhara chakra* is located^{xv}. *Shariroupanishad*— *Guda* is a *kamandhrae* and used only for expulsion function or *viserjan karma* of *purish*. *Trishikhabrahmanoupanishad*— *Apan vayu* is found in *guda*, *uru*, *janu* and *medhu* or penis region and its main function is to promote the outward motion of *vayu*, *mutra*, *purish*. *Saman vayu* is found in whole body and its main function is to promote the anabolic processes in the body.^{xvi-xvii}

Guda is defined as *dwar*, is one of in nine *dwar*s of the body. It is defined here that with the help of *apan vayu* and *prana*, the *agni* (body heat) is activated which performs the digestion of four types of food.

Acharya Charak has explained the anatomy of *purish waha srotas* in a light manner. He has mentioned that *grahani* and *guda* are situated in left side, due to this fact when lying on left side the enema should be reached easily and folds of *guda* do not interrupt the enema^{xviii}. The *guda* should be smeared with some uncting substance and also the nozzle, which should be introduced by its one fourth part slowly straight and parallel to the back, and then enema pouch should be pressed properly. Then enema is going up to umbilical region, waist, sides, and belly, stirring up the accumulated faeces and impurity and uncting the body, then it comes out with faeces and impurity properly. In this way by the route of *vasti* Acharya Charak has explained the anatomy of *purish waha srotas*. Acharya Charak has described the regional anatomy of *sthul guda*. He has explained the position of *sthul-guda* in reference to position of *vasti*, which is situated in the middle of *sthul guda*, scrotum, raphe, vas deferens and ureters. It is mentioned by Chakrapani that *vasti* is situated on *sthul guda*. Acharya Charak has explained the *guda* as vital organ. Acharya Chakrapani has described the *guda* which contain two parts: *oar guda* is the part of *guda* where *purish* is found and *adhar guda* is the part of *guda* formed where *purish* is expelled out Acharya Charak has explained the *pakvashaya*, *purishadhara* (*unduka* — *dalhana*), *sthul-antra*, *uttarguda* and *adhar-guda*, are the organs which are maternal in origin. Acharya Charak has also mentioned these organs and *purishaadhana* as *kosthang*^{xix} In respect of basic physiology of *purish waha srotas* Acharya Charak has mentioned that, the *prana vayu*

has function to carry the food to the belly where the food is disintegrated by fluid (juices) and softened by fatty substances, gets acted upon by the digestive fire fanned by the *saman vayu*. The digested fire cooks the timely taken and balanced food, properly leading to promotion of life span. *Agni* or digestive fire cooks the food and then divided it into *rasa* (nutrition fraction) and *mala* (excretion fraction). The food is composed of six *rasas*. Immediately after it is ingested, it undergoes the stage of *prapaka* firstly due to predominance of sweetness, *madhur paka* stage is found. Thereafter during the process of digestion when the food is half burnt and descending from stomach, due to predominance of acidity, *amla paka* stage is found. Lastly, when it reaches the *pakvashaya*, it is absorbed by fire and gets converted into solid mass. *Vayu* (wind) is formed due to predominance of pungency. This stage of *prapaka* is called *katupaka* stage^{xx}. Acharya Charak has mentioned the *saman vayu*, as it is located in channel carrying sweat, *dosha*, water (fluid) and seated beside the digestive fire provides strength to "*agni*"^{xxi}. In respect of *apan vayu*, Charak has mentioned that it is found in testicle, urinary bladder, penis, navel, thigh's groins and its main function is to promote outward motion of faeces, urine, semen, menses and fetus at their right time^{xxii}.

In respect of suppression of defecation, he has explained the symptoms like colic pain, headache, retention of flatus and faeces, cramps in calf muscles, flatulence. Suppression of flatus causes retention of faeces, urine and flatus, flatulence, pain, exhaustion and other disorder in abdomen due to *vata*.^{xxiii}

On account of symptom of *purish kshya* he has mentioned that when *purish* is present in fewer amounts then *vayu* is moving in the intestine, raising the abdomen and then it goes toward ribs area. In other words, excessive flatulence is present^{xxiv}.

For clinical point of view Acharya Charak has explained the *purish vaha srotamula* are *pakvashaya* and *sthul guda*. The commentary of Gangadhar on *purish vaha srotamula*, mentioned that *pakvashaya* is situated below to umbilical region and *sthul guda* contain three folds. He also explained the characteristic of "*pakvashaya*" as it is the place where after digestion, the digested material enters and then the absorption of fluid from the residual or *asara* of digested matter takes place here which later on changes into solid form, called *purish*^{xxv}.

Acharya Charak has explained the symptoms of the morbidity of *purish vaha srotas* as: passing faeces with difficulty in small quantity with sound and pain, too liquid, too scabulous and evacuation of faeces in large quantity. In respect of *purish vaha srotodusti nidan* he has mentioned that holding up the urge for defaecation, over eating, eating during indigestion and while the previous meal is not digested, particularly in person with poor digestion—and lean and thin persons, are the main causative factors of *purish vaha sroto dusii*. On account of Anatomical consideration of *purishvaha srotas*, Sushrut has given some evidence like - The *nabhi marma* is present in between *pakvashaya* and *amashaya*. The "second evidence" is the *purishdhara kala*, which is found inside the *Pakvashaya*. The *antra* (*Sthulantra*), which contains *purishdhara kala* is near to liver and other organs. This *maladhara kala* specially absorbs the fluid from *mala* (*purish*) in *unduka* (*Caecum*)^{xxvi}.

Third evidence is the position of *vata dosha* which is found in *pakvashaya* and *pakvashaya* is situated in between, umbilical region and *shronipradesh* and *guda*. The fourth evidence is, the route of *vasti* which is given through *guda*. The *vasti dravya* ascends in *kati*, *pakvashaya* and situated below umbilical region^{xxvii}.

Acharya Sushrut has described the *guda* as *mamsa marm* and said that it is connected to *sthulantra*. He has categorised the *guda marm* as *sadhya pranharra marm* and only function of *guda* is the expulsion of faeces and flatus^{xxviii}. Dalhana has said that the *guda marm* is about four *angula* in measurement. Acharya Sushrut has explained the development of different parts of *purishvaha srotas*. According to him, the *unduka* is formed from the *kitta* part of the blood and *antra*, *guda* of foetus develop from the essence of *rak,ta* and *kapha* digested by the *pitta* into which *vayu* enters.^{xxix} Again, he has described, the *unduka*, *antra*, *srotas*, *sira dhamni*, *marm*, *ashaya* (*pakvashaya*) and *yoga vahi srotas* (*purishvaha srotas*) as, *pratyanga*^{xxx}. He has described the *guda* which is connected to *sthul antra* and it contain three folds.^{xxxi} *Guda* also contains three muscles. Acharya Sushrut has described the physiology of *pakvashaya* indirectly as the *purishdhara kala* is found in the *pakvashaya* whose main function is to absorb the fluid from faecal matter. In this way Acharya Sushrut has mentioned that *pakvashaya* is the place where faeces formation takes place^{xxxii}.

On the explanation of *apan vayu*, Sushrut has mentioned that the *apan vayu* acts in the lower region of the intestine (*pakvashaya*). Its main function is to promote downward motion of fetus, faeces, urine, semen and menstruation at their usual time^{xxxiii}.

According to Garnath Sen *sthulantra* or *vrehadantra* is divided into six parts that is: (1) *Unduka* or caecum; (2) ascending part; (3) transverse part; (4) descending part; (5) *Kundalika* or pelvic part, (6) *Guda nalika* or anorectum.

Gudadwar is the terminal part of *adhar guda*, situated in front of "*anutrikusthi*" and in between *nitcunlm*. This *gudadwar* is surrounded by external *guda sankochini peshi* (external anal sphincter). Venous plexus surrounds the *guda nalika* and it is the place of piles. Venous plexus characterizes its lower portion which is very sensitive to pain. In other words the *adhar guda* is the place where venous plexus is found and it is the site of pile, pain and sensitivity. Blood supply to *sthul antra* is performed by *uttar antric* (superior mesenteric) and *adhar antric* (inferior mesenteric) blood vessels.

The nerve supply of *antra* is formed by *manipura chakra* (coeliac plexus) and *muladhara chakra* (hypogastric plexus both superior and inferior). Both plexuses are responsible for the function of *saman vayu* (*manipura chakra*) and *apan vayu* (*muladhara chakra*). The *guda pram* is under control of men^{xxxiv}.

Garnath Sen has explained the *pakvashaya* as *vrehadantra* where *maladhara kala* is found. This *purishdara kala* is responsible for holding the faecal matter and also differentiates the faecal matter in the caecum (*unduka*). It is well known that the villi in the small intestine draw the juices of food and leave the residue, which enters the caecum as faeces^{xxxv}

Ghanekar has mentioned the *Pakvashaya* as colon and commonly *Pakvashaya* term is taken in reference to *Sthulantra* (large intestine)^{xxxvi}

Ghanekar has mentioned that *maladhara kala* is situated in *sthulantra* which is near to the base of liver. Other organs are also near to it (spleen, Stomach, coil of small intestine, kidney) and two *varchonirashana dhamani* that are attached to large intestine are, inferior mesenteric artery, middle colic and right colic artery^{xxxvii}.

The word *guda* denotes a bit extensive Portion of the gut and is divided into two parts: *Uttar guda* — rectum, *Adharguda* — anal canal. *Uttar guda* is that portion where the excreta is lodged and *adharguda* is that through which it is expelled. The anal margin or lip, is the terminal portion of anal canal attached to the large intestine at its end lies "*Guda*" which is five and half *angular* long in this area seen three fold *pravahani*, *visarjani* and *samvarani*. The first of these three is 1/2 *angula* above the anal lip. *Guda* is a seat of disease like piles, prolapus ani and fistula etc.^{xxxviii}

According to ayurvedic *kriya sharir*, *sthulantra* has few parts that are: *unduka* or *purishounduka* (caecum), *unduka-pucha* (appendix), *aarohi sthulantra* (ascending colon), *anuprasta sthulantra* (transverse colon), *avarohi sthulantra* (descending colon), *kundalika sthulantra* (sigmoid colon). The above description is described, under heading of parts of *pakvashaya*. The last part of *sthulantra* is *uttar guda*. It is about 4 to 5 inches long, front of the *uttar guda vasti* and uterus is located, below *uttar guda*, *shukrashaya*, *shukravahini*, *vastishir pourush granthi* and *yoni* are found. The *uttar guda* opens into *adhar guda*. It is about 4 to 5 inch long. The whole *adhar guda* is surrounded by external *gudostha* (external sphincter) and internal *gudostha* (internal sphincter). The above description is described under heading of *guda nalika* in this book. The main function of *sthulantra* is to absorb fluid from faecal matter and then changed it into lump form is, called faeces or *purish*.

As per Commentary of Sushrut Samhita Sharir Sthana by Dr. Dinkar Govind Thatte: Faecal carriers are two in number. Their roots are, large intestine and rectum. Any injury to them may cause tympanitis, faecal or bad smell. This statement is very true because the stool is formed in the large intestine *i.e.* colon. The various parts included in the colon are caecum, ascending colon, hepatic flexure, transverse colon, and splenic flexure, descending colon, sigmoid colon and rectum. Symptoms allotted to the pathology of these anatomical segments of large intestine are all the same *i.e.* tympanitis, formation of fecolith and bad odour. In colitis excessive gas formation causes tympanitis.

Conclusion:-

On the basis of whole description of *srotomula* of *purish vaha srotas*, it can be explained as: one portion is used for the formation of *purisha* (*pakvashaya*) and other portion is used to help in defecation by receiving the defecation signals from rectum (*sthool antra*) to be used in initiation of defecation reflex (*guda* and *sthoola guda*) So it can be concluded that one portion of *purishvaha srotas* is involved in the formation of *purish* and other portion is involved

in defaecation process for the expulsion of flatus and faeces. Hence the present study can be used in understanding *sroto viddha lakshana* and other *sroto dusthi* symptoms and their management with reference to rectum.

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