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Clinical Implication of Portacaval Anastomosis and its Relevance in Ayurveda w.s.r. to Haemorrhoids

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ABSTRACT

Portal circulation is the flow of blood from one capillary bed to another capillary bed. Porta-caval anastomosis is the communication between tributaries of portal vein and systemic veins. These communications form important routes of collateral circulation in portal obstruction. In the rectal region the superior rectal vein (portal) anastomoses with the middle and inferior rectal veins (systemic). Haemorrhoid is a pathological condition where rectal veins become dilated and tortuous as a result of portal hypertension. Arshas mentioned in our classics is a condition where in there is formation of mamsaankura and raktasrava from the gudamarga. This arsha may be compared with haemorrhoids where there is tissue prolapse and bleeding per rectum. This paper discusses about the importance of porta-caval anastomosis and its role in a pathological condition of haemorrhoid and its comparison with arsha, mentioned in Samhitas.

KEYWORDS

Porta-caval Anastomosis, Haemorrhoids, Arsha



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INTRODUCTION

Our body consists of three types of circulation viz. systemic circulation, pulmonary circulation and portal circulation. The term 'portal' refers to a vein interposed between two sets of capillaries. Portacaval anastomosis is the communication between portal vein or its tributaries and systemic veins. Major sites of Portacaval anastomosis are at the region of umbilicus, oesophagus and rectum. In the rectal region, superior rectal veins communicate with the middle and inferior rectal veins. Any obstruction at this anastomotic channel may lead to portal hypertension and cause dilation and tortuousness of the veins. In haemorrhoids rectal veins are dilated and become tortuous. Arshas, which is one among asta mahagada may be compared to haemorrhoids. Arsha is of mainly of two types, shuska and ardraarsha. Shuskaarsha is caused by rakta, pitta, or raktapitta and raktasrava from guda is the major symptom.

AIMS AND OBJECTIVES

- To understand porta-caval anastomosis and its role in pathological condition, the Haemorrhoid.
- To compare haemorrhoids with arsha and understand porta-caval anastomosis in Ayurveda.

MATERIALS AND METHODS

- Literature regarding Porta-caval anastomosis, Hemorrhoids and Arshas were collected from Samhitas and other relevant modern books and journals.

How internal haemorrhoids are formed?

There is one tributary of the superior rectal vein in each anal column. However, the tributaries located in the left lateral, right posterior, and right anterior positions are largest and the first to enlarge. These enlargements are called *primary piles*. When the anal canal is viewed with the patient lying supine with the thighs raised (lithotomy position) the position of primary piles is often described with reference to a clock. They are said to be located at the 3 O'clock, 7 O'clock and 11 O'clock positions. Secondary piles may form later at other positions. Sub mucous connective tissue at the anorectal junction is very loose and the radicles of the superior rectal vein lie unsupported in this tissue. The veins pierce the muscle coat and are pressed upon when the muscle contracts during defecation. This increases pressure within them. There are no valves in the superior rectal or inferior mesenteric veins. The tributaries of these veins in the anal columns, therefore, bear the pressure of the entire column of blood right up to the portal



vein. This explains why haemorrhoids are more liable to occur in persons who have to stand for long periods. This also explains why the tendency to formation of piles is increased in portal hypertension. The most important clinical feature of piles is painless bleeding which may take place every time the patient passes stools².

Grades of Haemorrhoids

Haemorrhoids are grouped into different grades based on the severity. They include:

- Grade One: This is the least painful and problematic of all haemorrhoid grades. Symptoms include a slight enlargement of the haemorrhoidal veins, with the possibility of some slight bleeding.
- Grade Two: during this stage of haemorrhoidal growth, haemorrhoids prolapse during straining, but recede on their own.
- Grade Three: a more complicated and painful type of haemorrhoid. In this grade, the swollen tissue containing dilated and engorged blood vessels prolapses and must be manually pushed back in. Bleeding usually occurs as a result of rupture of haemorrhoidal veins during forced defecation.
- Grade Four: the most painful of all haemorrhoids, grade fourth, is so large that they are always noticeably protruding

from the anus and bleed frequently. They are also very painful³.

Arshas

Acharya Sushruta considered arsha among asta mahagada⁴. Arsha is defined as the one which tortures like an enemy in the gudapradesha and causes malaavarodha⁵. Arsha adhisthana takes place at the gudapradesha which is 4 $\frac{1}{2}$ angulavistsra and has three valli viz pravahini, visarjini and samvarani from proximal to distal⁶. Explaining samprapti it is said that due to nidana sevana vitiated vatadi doshas single or with other doshas or along with rakta moves towards major dhamani of shareera and forms mamsaankura in the guda pradesha⁷. Arsha is basically of two types, sahajajaanmottara and uttarajanmaja. Sahajajaanmottara is of six types as vataja, pittaja, kaphaja, samsargaja, tridoshaja and raktaja⁸. Acharya Charaka mentioned two types of arsha as sushka and ardraarsha. Shuska arsha is vata, kapha or vata-kapha pradhana and ardr arsha is rakta, pitta or raktapittapradhana with raktasrava as major symptom⁹.

DISCUSSION

Portal hypertension causes blood within the portal vein to reverse its flow and enter the inferior vena cava to return to heart. As a



result collateral channels are formed at the sites of Portacaval anastomosis, leading to important clinical signs. One such condition is the haemorrhoids where rectal veins gets dilated and become tortuous. Haemorrhoids may be internal or external. The rectal veins form an important portal–systemic anastomosis because the superior rectal vein drains ultimately into the portal vein and the inferior rectal vein drains into the systemic system.

In Internal haemorrhoids, there may be bleeding per rectum along with tissue prolapse. The most common cause for this is the pressure exerted on the rectal veins. During defecation when person puts pressure, the dilated rectal veins burst and start bleeding. This bleeding per rectum is similar to the raktasrava in arsha as mentioned by acharya Charaka. Also explaining about samprapti of arshas acharya Sushruta mentioned that, vitiated vatadi dosha either single or along with other doshas or along with rakta takes ashra in main dhamani of shareera and through these dhamani moves towards guda and produces mamsaankura. These dhamani may be compared to rectal veins which gets dilated and become tortuous in haemorrhoids. With this explanation we may say that dhamani which causes raktasrava in

arsha may be the site of portacaval anastomosis as mentioned in modern science.

CONCLUSION

Arshas is a pathological condition in which there is rakthasrava from the gudamarga. Raktasrava is one of the main symptoms of arsha seen due to vitiated dhamani in the gudapradesh which is similar to rectal bleeding in haemorrhoids from dilated rectal veins. Hence we may infer that guda may be the site of portacaval anastomosis which in pathological condition may cause arsha.



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