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A LITERATURE REVIEW OF SIRAGRANTHI OF VRUSHANKOSH W.S.R. TO VARICOCELE

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ABSTRACT

Varicocele is characterized by dilatation and tortuosity of the papiniform plexus of the veins and testicular veins. In ayurveda, it can be co-related with siragranthi of vrushankosh. According to acharya sushrut, vitiated vata enters the sira of vrushankosh causes sankoch, sampidan and vishoshan which produces granthi in sira and leads to siragranthi of vrushankosh i.e., varicocele. The literature study is done to co-relate siragranthi of vrushankosh with nearly similar cause of disease and manifestation in modern medical science. It has been found that during this study siragranthi of vrushankosh and varicocele are very well co-related. With the help of this study the key features of sirgranthi could be understood and based on symptoms it can be co-related with modern medical science's varicocele.

KEYWORDS: Siragranthi, Vrushankosh, Varicocele.

INTRODUCTION

Varicocele means varicosity of veins of the spermatic cord. The veins become dilated, elongated and tortuous. The veins of the spermatic cord include, pampiniform plexus i.e., testicular vein and the cremasteric veins. Occasionally, testicular veins may be normal but the cremasteric veins become varicosed. The veins of the testis and epididymis which from the pampiniform plexus is the most bulky constituent of the spermatic cord as the veins passes of from the testis and the epididymis which are 50-20 in numbers. As the veins passes through the inguinal canal upwards they become reduced in numbers i.e., 4-8. Just deep to the deep inguinal ring these veins further coalesce to form 2 veins. These 2 veins enter the abdomen and they unite to form single vein, called testicular vein and move upwards by the side of the

testicular artery in the posterior abdominal wall behind the peritoneum. The right testicular vein drains into inferior vena cava, whereas the left testicular vein drains into left renal vein at right angle. These testicular veins are mostly devoid of valves except near there terminatims where they are provided with valves. The cremasteric veins anastomos freely with the testicular veins and these veins drain into inferior epigastric vein.

The varicocele prevalence in the general population is estimated to be 15%-20% however, the prevalence of 40% among the men is seen with primary infertile males. In more than 90% of cases, varicocele is seen of the left side. The left testicular vein drains into the left renal vein at right angle so there is a chance of blockage of drainage from the left testicular vein. But the right testicular veins open obliquely into the inferior vena cava and this drainage occurs freely.

According to Acharya Sushrut, in the pathogenesis of siragranthi of vrushankosh, vata and pitta dosh are predominant so, the dilated and tortuous veins in the scrotum can be co-related to siragranthi of vrushankosh which are caused due to vata and pitta dosh.

AIM

To establish relation between siragranthi of vrushankosh and varicocele.

OBJECTIVES

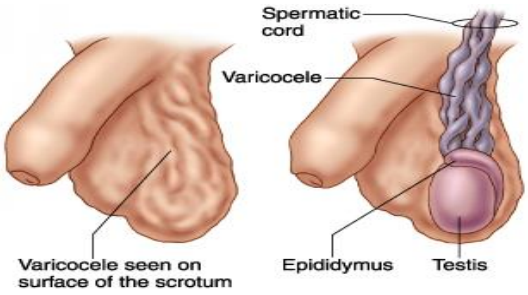
To review the literature on sirgranthi and varicocele.

METHEDOLOGY

The literature on siragranthi and varicocele were explored and collected material was compared and co-relation of disease, its cause, etiology and its types and its clinical features are further discussed. According to Acharya Sushrut, in the pathogenesis of siragranthi vata and pitta dosh are predominant so the dilated and tortuous veins in the scrotum can be co-related to siragranthi of vrushankosh which are majorly caused due to vata and pitta. Etiological factors, *Abalasyavyayamajaate* (weak person who practices excessive exercise) *Vyayamatipasangasya* (one who performs excessive exercise) the effect of *Vyana Vayu* the vitiated vata accumulates in the vascular bundle i.e., sira which in turn compresses (sampidya), squeezed (samkoch), dries it up (vishoshya), produces granthi within less time.

Acharya Vaghbhata added that vitiated vata plays major role and exert its influence on sira and rakta dhatu causes sampidan, sankoch and vishoshan of sira resulting in formation of

granthi which is non pulsating and painless. Chakradatta, also states that because of nidan not only vata but also kapha, rakta and pitta gets vitiated which then enter in blood vessels and gets lodged there and produces obstruction and cause granthi.



According to modern science, majority of the cases are idiopathic and no definite cause can be detected, through valvular incompetence has been incriminated. It may develop as a result of poorly functioning valves that are normally found in veins or may occur from compression of vein by nearby structure. A spermatic cord holds up each testicle. The cord also contains the veins, arteries and nerves that support these glands. In healthy veins, inside the scrotum, one-way valves move the blood from the testicles to the scrotum and then send it back to the heart. Sometimes, the blood does not move through the veins like it should and begin the pool in the vein causing it enlarge and it develops slowly overtime. No established risk factors for developing a varicocele and the exact cause are unclear.

Anatomy of varicocele

Pampiniform plexus

- The pampiniform plexus is a network of veins located within the spermatic cord, surrounding the testicular artery.
- Normally, these veins help regulate the temperature of the testicles by dissipating heat.

Spermatic cord

- The spermatic cord is a tubular structure that encloses the vas deferens, blood vessels, and nerves.
- It extends from the abdominal inguinal ring down into the scrotum.

Testicular veins

- The veins arising from the testicles converge to form the testicular veins within the spermatic cord.

- These veins play a crucial role in draining deoxygenated blood from the testicles.

Varicocele development

- Varicocele is characterized by the abnormal dilation and tortuosity of the veins within the pampiniform plexus and the testicular veins.
- Increased pressure within these veins can lead to venous insufficiency and backflow of blood, causing enlargement and distortion.

Location

- Varicoceles typically occur on the left side more frequently than on the right, often due to the anatomy of the left testicular vein joining the left renal vein at a right angle, creating a vulnerable point for venous congestion.

Clinical implications

- Varicoceles can lead to impaired blood flow, increased testicular temperature, and potential damage to testicular function.
- The condition is often associated with male infertility, as the altered vascular dynamics can negatively impact sperm production and quality.

Pathophysiology

- The exact cause of varicocele development is multifactorial, involving factors such as defective valves in the veins, increased intra-abdominal pressure, and anatomical variations.

Aetiology and Type

1. Idiopathic/primary- due to incompetence of valve 98% occur on the left side.
2. Secondary- pelvic/abdominal mass, left renal mass/ renal carcinoma with tumor, thrombus in left vein

Clinical features

1. Swelling
2. Bag of worms feeling
3. Dragging pain in Groin and Scrotum
4. On lying down it gets reduced
5. Cough impulse present

6. Bow sign- hold varicocele between Thumb and Fingers, patient is asked to bow- reduces in size.

Gradings

1. Small
2. Moderate
3. Large
4. Severely tortuous

DISCUSSION

Signs of Siragranthi of Vrushanakosh found similar to varicocele Sampeedya (compression), sankoch (squeeze), vishoshya (dries up) due to vitiated vata, pitta and rakta dhatu leading to formation of granthi in varicocele exact cause is unclear, sometimes cremasteric veins become dilated which freely communicate with the pampiniform plexus and drains into the inferior epigastric veins. May result of poorly function of valves which are found in veins.

Acharyas have discussed clearly samprapti of siragranthi, Acharya Sushrut states that vitiated vata and pitta doshas are mainly involved so as to cause dilation and tortuous veins in scrotum. Acharya Vaghbhata describes primarily vitiated vata influenced on sira. Whereas Acharya Chakradatta says, not only vata but also pitta, rakhta and kapha gets involved.

CONCLUSION

Siragranthi of vrushankosha can be co-related with varicocele by seeing at samprapti and lakshana as its disease course and symptoms.

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