

Anatomical Exploration of *Vitapa Marma*

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ABSTRACT

In Ayurveda, the term *Marma* is a representative of vulnerable areas in the body. Injury to these structures either by trauma or by disease condition may cause a varied scenario ranging from *Ruja* to even death. Widely description has been found in *Sushruta Samhita* regarding prevention aspect while performing Surgery or making an incision. *Vitapa Marma* is described as a *Snayu Marma* by Acharya Sushruta and *Sira Marma* by *Vagbhata*. And both have considered it under *Vaikalyakara Marma*. As per Ayurveda classics, *Vitapa Marma* is situated between *Vankshan* and *Vrushana* and its *Viddha Lakshan* is impotency. Structure present at this point is the inguinal canal. Many important structures pass through the inguinal canal. Main clinical importance of Inguinal Canal relates to inguinal Hernia. Injury at this Particular point during surgery or any trauma indirectly affects the reproductive system and may cause sterility which is similar to *Viddha Lakshana* of *Vitapa Marma*.

Keywords:- Inguinal Canal, Inguinal hernia, *Vitapa Marma*, *Vaikalyakara*.

INTRODUCTION

The term *Marma* is derived from the root 'Mrung Pranatyage' meaning, that which cause *Pranatyaga* or death. ^[1] *Marma* is said to be the sites where there is the conglomeration of *Mansa*, *Sira*, *Snayu*, *Asthi*, and *Sandhi* and at these places, *Prana* resides especially by nature. ^[2] *Aacharyas* have identified and classified 107 *Marma* in the human body. ^[3] *Aacharas* had classified *Marma* according to *Rachana* ^[3] (Structural classification), *Aaghataja Parinama* ^[4] (prognostic classification), *Parimana* (Dimensional classification), ^[5] *Sadanga* ^[6] (Regional classification). *Aacharya Ghanekar* said that *Vitapa Marma* is the inguinal canal.

Aims & objective: To explore the anatomical structures related to *Vitapa Marma* and its clinical importance.

MATERIALS AND METHODS

Review of *Marma* literature from *Ayurveda* classics including relevant commentaries. Relevant literature from modern anatomy.

Literary Review

Vitapa Marma is situated between *Vankshan* and *Vrushana*. ^[7] *Vitapa* means that which protects ^[8] and the place where legs are connected to the trunk. *Vankshan* is a *Sandhi* situated at the root of *Uru* (thigh) or the junction of *Udara* and *Uru*. ^[9] *Dalhana* said that the case pocket of *Anda* called *Mushka* denotes *Andakosha*. ^[10] *Arundatta* said the same as the pocket of *Vrushana* is called *Andakosha*. ^[11] Thus the term denotes Scrotum. So area between *Vankshan* and *Vrushana* is *Vitapa* and we can consider it Inguinal Canal. *Vitapa Marma* is described under *Sira Marma* by *Vagbhata* ^[12] and *Snayu Marma* by *Susruta* ^[13] with a dimension of one *Angula*. ^[14] Trauma on

Vitapa Marma leads to *Vaikalya* [15] that is *Sandhata* (sterility) or *Alpasukrata*. [7]

Inguinal Canal:- [16] This is an oblique passage in the lower part of the anterior abdominal wall, situated just above the medial half of the inguinal ligament. It extends from deep inguinal ring to superficial inguinal ring.

Structures passing through inguinal canal:-

- 1) Spermatic cord in males and round ligament of the uterus in females
- 2) ilioinguinal nerve

The constituent of the spermatic cord:-

- 1) Ductus deferens
- 2) Testicular and cremasteric arteries and artery of ductus deferens
- 3) Genital branch of genitofemoral nerve

Covering of spermatic cord:- internal spermatic fascia, cremasteric fascia, external spermatic fascia.

Clinical importance of inguinal canal:-

It is a potential weakness in the abdominal wall, and therefore a common site of herniation. Protrusion of the loop of intestine through the inguinal canal is called inguinal hernia. Anatomically inguinal hernia is divided into two types: direct inguinal hernia and indirect inguinal hernia. When the protrusion occurs through the weak posterior wall of inguinal canal (through Hesselbach's triangle) is a direct inguinal hernia. When the protrusion occurs through the deep inguinal ring, inguinal canal, superficial inguinal ring into the scrotum is called indirect inguinal hernia.

Treatment of an inguinal hernia:-

Only surgery is a treatment for an inguinal hernia. Various procedures such as herniorrhaphy, hernioplasty, herniotomy are used for repairing of inguinal hernia.

DISCUSSION

As per Ayurveda Text, *Marma* are the vital points which when get injured either by trauma or by disease condition cause severe pain, deformity or even death. *Acharya Sushruta* said that *Vitapa Marma* is situated between *Vankshan* and *Vrushana*. It may be the region of the Inguinal Canal.

Injury in this region may produce obstructive pathology or vascular damage and may cause indirect effect resulting in infertility. Since it is *Snayu* the content of this *Marma* may be taken as spermatic cord.

Ductus deferens is a duct which transfers sperm from epididymis to ejaculatory duct. Testicular arteries are branches of the abdominal aorta, supplies blood to the testis. The cremasteric artery is a branch of the inferior epigastric artery, supplies blood to cremasteric muscle and covering of spermatic cord. Pampiniform plexus is venous return from testis to drain testicular vein, help to regulate the temperature of testis which is essential for sperm formation. The genitofemoral nerve is a branch of lumbar plexus, supply sensation to upper anterior thigh as well as the skin of anterior scrotum in the male. Ilioinguinal and genitofemoral nerve present in the superficial ring on injury may cause impotency due to the crush of the nerves.

Commonly spermatic cord injury caused by surgical trauma, accidental trauma, torsion induced trauma. Vas deferens injury during herniorrhaphy leads to obstruction and thus sterility. The pressure exerted by varicocele ultimately responsible for sterility. Inflammatory pathogenesis of cord also causes sperm flow obstruction. Torsion or twisting of cord leads to sterility by obstructing pathway of sperm flow. The involvement of ductus deferens and entire cord in above pathogenesis or surgical complications may lead to sperm flow reduction. Thus, it may cause *Alpasukrata* i.e. oligospermia and *Sandhata* i.e. sterility.

CONCLUSION

Marma are vital points of the body which cause pain, deformity or even death when get injured. In order to protect the *Marma* and for proper management of injury, it is necessary to identify the structures related to them. *Vitapa Marma* may be interpreted for the inguinal canal. As *Acharya Sushruta* consider it as *Snayu Marma*, so we can take spermatic cord in

male, a round ligament in the female, ilioinguinal nerve, genitofemoral nerve which are the contents of canal. *Acharya Vagbhata* considers it as a *Sira Marma*, we can take testicular arteries, cremasteric arteries which are also a part of inguinal Canal. Hernia is main pathology in inguinal Canal. During Hernia surgery, injury in this region may produce obstructive pathology in vas deferens. Any direct injury on ilioinguinal nerve, genitofemoral nerve, testicular artery, cremasteric artery may cause an indirect effect on reproductive system and may cause impotency. Therefore the knowledge of *Vitapa Marma* is necessary for a surgeon to conduct hernia surgery. Thus complete knowledge of *Marma* helps the surgeon to conduct surgery carefully without damaging the *Marma* points.

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