



## Correlation between structural composition of Vitap marma and viddha lakshanas (traumatic symptoms) in male:

### KEYWORDS

Marma, Vaikalyakar marma, Vitapa marma, Viddha lakshana.

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### ABSTRACT

Marma is that vital point of the body surface where trauma or injury may cause sudden death or deformity in the body. Concept of marma (vital point) is one element of divine Ayurvedic system of medicine. It is not included in modern science. This concept was firstly mentioned by Acharya Charaka but detail explanation was given by Acharya Sushruta and Acharya Vagbhata in sharrir sthana of their respective samhitas. They have explained 107 such marmas (vital points), which are classified in different types according to various aspects. Depending upon injurious effect, marmas are of five types like sadyapranahara, kalantara-pranhara, vishyalghna, vaikalyakara, rujakara marma. Out of them vaikalyakara marma are the points where injury causes structural or functional deformity. Twelve vaikalyakara marma are located in adhoshakha (lower limb), they are kurch, janu, aani, urvi, lohitaaksha and vitapa. Injury to them causes symptoms which are very common in present era. The vitapa marma is explained as snayu marma by Acharya Sushruta and sira marma by Acharya Vagbhata. Thus this topic is selected to study its proper location with modern anatomy and also the structural involvement in injury causing viddha lakshanas specifically reproductive deformities as per Ayurveda

### Introduction:

*Ayurved* which means 'the science of life', has become recognized today for its wonderful dietary, herbal, life style therapies that help us to live longer, happier and more in harmony with the greater universe of life and consciousness. *Ayurveda* is a part of the older spiritual heritage of humanity that contains secret knowledge and profound wisdom. *Marma* science is one of specialities of *Ayurveda*. Science of *marma* (vital point) i.e *marma vigyaniam* is an extraordinary and dynamic part mentioned in *Ayurvedic* text 1 that has a tremendous value while performing surgery. According to *Ayurveda*, the knowledge of position of *marma* and *marmabhighata* (injuries to vital points) symptoms is essential before performing any surgical treatment.<sup>2</sup>

The concept of *marma* forms a part of *sharira*. The direct understanding of the word *Marma* in ancient sciences was evident, but there were no sufficient techniques to make out their original structural aspect involved. In earlier ages, this science of *marma* was more developed in wars where the warriors used to achieve their target by destroying vulnerable points i.e *marma* of enemies. To extend the knowledge of *marma* in clinical fields, it is necessary to know the actual structures present at those site. *Marma* are certain vital points spread all over the surface of human body. These are the places where the *prana* (life force) is said to be situated. In modern surgery, they have not described the *marmas*. But in surgical surface markings, they are careful to avoid the specific structures such as nerves or arteries or veins etc which are vital points.

*Marma* is defined as anatomical site where five structure i.e *mamsa* (muscle), *sira* (vessels), *snayu* (ligaments), *asthi* (bones) and *sandhi* (joints) meet together.<sup>3</sup> *Acharya Vagbhata* says that those sites which are painful on application of pressure and shows abnormal pulsation should also be considered as *marmas*.<sup>4</sup> These points are seats of life. These are 107 such vital points in our body. *Acharya Sushruta* and *Acharya Vagbhata* have mentioned various types of *marmas* depending upon their *sthan* (position), *rachana* (constituents), *viddha lakshanas* (traumatic effect), *parinam* (prognosis), number and dimensions. Depending up on after-effect of injury, *marmas* (causing are nomenclated as *sadyapranahara* (causes death), *kalantarapranahara* (causes delayed fatality), *vishalyaghna* (causes harmful effect on removal of *shalya*), *vaikalyakara* (causes debility), *rujakara* (causes pain).<sup>5</sup> Out of them, *vaikalyakara marmas* are the points where injury causes structural

or functional deformity which are 44 in number, in each lower limb 6 *vaikalyakara marmas* are present. They are *kurch*, *janu*, *aani*, *urvi*, *lohitaaksh* and *vitap*<sup>6</sup> and injury to them cause symptoms which are very common in present era. We found more than 50% *marmas* in *adhoshakha* (lower limbs) are *vaikalyakara*. Depending upon the structural classification, the *vitapa marma* is explained as *snayu marma* by *Acharya Sushruta*,<sup>7</sup> and *sira marma* by *Acharya Vagbhata*.<sup>8</sup> Thus, this topic is selected to study actual area containing *vitap marma* with reference to modern anatomy so that actual structural involvement in injury can be assessed to elaborate concept of *viddha lakshanas* in *Ayurveda*.

### Discussion:

*Ayurveda* is the holistic science. Its main *prayojana* (aim) is '*swatharakshana*' (to maintain homeostasis) and '*vikarprasham*' (to cure disease).<sup>9</sup> To fulfill the abovementioned aim, various basic concepts related to health mentioned by *Acharyas*. *Acharyas* also elaborated a very special concept in *Ayurveda* i.e '*marmasharir*' (knowledge of vital points). Almost all our ancient sages have mentioned about the *marma-sharira*. There are many quotations in variable ancient *Ayurvedic* texts regarding 107 *marma* (vital points) in our body. But *Acharya Sushruta* and *Acharya Vagbhata* have given a separate chapter on the description of *marmas* in *sharira sthana* in their respective *samhitas*. If keenly observe the references, it is observed that *Acharya Sushruta* has given emphasis on surgical point of view. He has clearly mentioned that *marmas* are the structure that should be preserved during surgery to save the life of person.

According to *Acharya Sushruta* '*marma*' is defined as anatomical site where five structures i.e *mamsa* (muscle), *sira* (vessels), *snayu* (ligaments), *asthi* (bones) and *sandhi* (joints) meet together and is location of '*prana*' (consciousness). *Acharya Vagbhata* says that those sites which are painful on application of pressure and shows abnormal pulsation should also be considered as *marmas*. Based on five criteria, the *marmas* are placed in different groups and given some special names. Out of those five criteria, one is prognosis of injury at the site of *marma*, They are classified under five headings as *sadyo-pranahara*, *kalantara-pranahara*, *vishalyagna*, *vaikalyakara* and *rujakara*. Each of these words has got a specific meaning indicating the prognosis and type of deformity.

The word '*vaikalyakara*' is derived from '*vaikalya*' means deprived of some part or abnormality or deformity or disability to do something.

Thus, the *vaikalyakara marmas* are those points in the human body, injury to which can result in structural or functional deformity. Such six *vaikalyakara marmas* that are present in each lower limb are *kurch, janu, aani, urvi, lohitaaksh and 'vitapa'*. Each of these has got unique significance if injury occurs to them. As per the dominant anatomical structures involved, the prognosis of injury varies from disfigurement of leg to paralysis or sometimes even death.

The word 'vitap' is described under *sira marma* by *Acharya Vagbhata* and *snayu marma* by *Acharya Sushruta* with dimension of one angula (area of one fingure).<sup>10</sup> In male, after trauma on *vitap marma*, leads to *vaikaalya* that is *shandhata* (sterility) or *alpa shukrata* (oligospermia).<sup>11</sup> *Sthana of vitapa marma* mentioned by *Acharya* is the joining area *vankshan - vrushan*. According to modern science that region is accompanied with inguinal region. In male, the structures present that above mentioned site are-<sup>12</sup>

From external to internal- skin, superficial fascia and inguinal canal. In male, spermatic cord and ilioinguinal nerve are chief components of inguinal canal. Structure present in Spermatic cord are, ductus deferens, testicular arteries, cremastic arteries and pampiniform plexus.

Ductus deferens- it is a duct which transfer sperm from epididymis to ejaculatory duct.

Testicular arteries- it is branch of abdominal aorta, supplies blood to testis.

Cremasteric arteries- it is branch of inferior epigastric artery, supplies blood to cremasteric muscle and covering of spermatic cord.

Pampiniform plexus- its function is venous return from testis to drain testicular vein, help to regulate the temperature of testis which is essential for sperm formation.

Genitofemoral nerve- branch of lumbar plexus, supply sensation to upper anterior thigh as well as skin of anterior scrotum in male.

lymph vessels from testis- lymph drainage of scrotum, remains of processus vaginalis.

If we assume the area of *vitap marma* mentioned by *Acharyas* i.e joining area of *vrushan* and *vankshan*, it is associated with area of spermatic cord as per traumatic effect, i.e *shandhata* (sterility), *alpashukrata* (oligospermia). Commonly spermatic cord injury caused by surgical trauma, accidental trauma, torsion induced trauma. Vas deference injury during herniorrhaphy leads to obstruction and thus sterility. 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 deference and entire cord in above pathogenesis or surgical complications, may lead to sperm flow reduction. Thus it may cause *alpashukrata* i.e. oligospermia and *shandhata* i.e. sterility.

#### Conclusion:-

*Shandhata* (sterility) and *alpashukrata* (oligospermia) are the *viddha lakshanas* (traumatic effects) of *vitap marma* i.e the site between *vrushan* and *vankshan* according to *Ayurveda*. According to modern this site can be correlated to the inguinal region in which inguinal canal is present just above the medial half of inguinal ligament. Trauma to the inguinal canal can cause injury to the contents in the spermatic cord which leads to sterility or oligospermia.

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