

ANATOMICAL AND STRUCTURAL CONSIDERATION OF AANI MARMA OF UPPER EXTREMITY

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ABSTRACT

Marma is one of the unique part and concept of ayurveda which has been discussed in all the classical texts and deeply elaborated by *acharya Sushruta* in 6th chapter of *Sharir Sthana*. *Marma* are several vital points on the body where *prana* resides and traumatic effect to such points can lead to pain, deformity and even death. So it is necessary to protect these points from injury. The word *marma* first finds mention in *Atharveda*. During the Vedic kala the science was prevalent probably because of war period. *Marma shastra* got a new outlook as a science dealing with *Marmabhighata*. *Marma* is explained as the anatomical area where the five – principle anatomical structures *Mamsa*, *Sira*, *Snayu*, *Asthi*, and *Sandhi* are collectively present. It is the concentrated point of *Prana*, which gives its vitality. It is a site where pulsation is felt and pain on pressure exists. Thus these points are of utmost clinical and surgical importance.

Keywords: -*Marma*, *marmabhighata*, *prana*.

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INTRODUCTION

The science of *Marma* (vital point), is an extraordinary part of Ayurveda that has a tremendous value while performing surgery. According to Ayurveda, the knowledge of the position of *Marma* and *Marmabhighata* (injuries to vital points) symptoms is essential before performing any surgical treatment. These are the places where the *Prana* (life force) is said to be situated. Definitions of *Marma*, types of *Marma*, symptoms produced after injuries to these *Marma*, and their treatment are described by nearly all Ayurvedic texts, especially “*Trimarmiya Siddhi*,” “*Trimarmiya Chikitsa*,” chapters in Charaka Samhita, “*Marma Vibhaga*” chapter in Ashtanga Sangraha and “*Shariravichaya Sharir*” chapter in Kashyapa Samhita. Many different *Marma* regions are described in Ayurvedic texts along with their specific effects on both body and mind. *Marma* range in size from very small to very large. Little injuries to these *Marma* points or anatomical areas can be as fatal as major injuries anywhere else in the body, so detailed knowledge of these *Marma* points is crucial for an Ayurvedic physician and surgeon. In *Ayurveda*, a 107-point *Marma* points have been described by *Sushruta* for helping a surgeon to safely operate on the human body.

Marma:

According to *Dalhana* these vulnerable point are those points on the human body surface on which any kind of trauma or injury may lead to death or symptoms like death. The term *Marma* means *prana*, *jiva* or life. *Acharya Sushruta* has described 107 numbers of *Marma* and described their anatomical classification. According to *Acharya Sushruta* the five anatomical structures are basically and essentially involved on *Marma* point.^[1]

These structures are:

1. *Mansa*
2. *Sira*
3. *Snayu*
4. *Asthi*
5. *Sandhi*

Mansa marma are 11, *sira marma* are 41, *snayu marma* are 27, *asthi marma* are 8 and *sandhi marma* are 20 in number.

Depending upon traumatic effects and prognosis various types of *marma* mentioned in Ayurveda as follows.^[2]

1. *Sadhyapranahar* (Sudden death)
2. *Kalantarpranahar* (Death within short period)
3. *Vaikalyakar* (Deformity due to trauma)
4. *Vishalyaghna* (Person lives until removal of foreign body)
5. *Rujakar* (continuous pain due to trauma)

Sadhyapranhar marma are 19, *kalantar pranhar marma* are 33, *vishalyaghna marma* are 3, *vaikalyakar marma* are 44 and *rujakar marma* are 8 in number.

Vaikalyakar Marma

Marma which cause deformity on getting injured are *vaikalyakar marma*. It is predominantly composed of *soma tatva* or *guna*. Due to the effect of stability or coldness brought by *soma guna* the *jala dhatu* supports the *pranas* or vital life forces.^[3] These are 44 in number.^[4]

<i>Marma</i>	<i>Sankhya</i>	<i>Marma</i>	<i>Sankhya</i>
<i>Lohitaksha</i>	04	<i>Krukatika</i>	02
<i>Aani</i>	04	<i>Amsa</i>	02
<i>Janu</i>	02	<i>Amsafalak</i>	02
<i>Urvi</i>	04	<i>Apang</i>	02
<i>Kurcha</i>	04	<i>Nila</i>	02
<i>Vitap</i>	02	<i>Manya</i>	02
<i>Kakshadhara</i>	02	<i>Phana</i>	02
<i>Kurpar</i>	02	<i>Aavart</i>	02
<i>Vidhura</i>	02		

Acharya Sushruta has described *aani marma* as a *vaikalyakar marma* and a *snayu marma*. These are 4 in number. In this study *aani marma* of *urdhva shakha* (upper extremity) is taken for study which are 2 in number, one in each limb.

Aani Marma:

According to *ShabdKosh*, the meaning of *Aani*:

- A boundary limit
- The part of the leg just above the knee and the corresponding part in upper limb is just above elbow.

Location-three *Angula* above on either side of the *Kurpar* are the *Aani*, *Snayu* is a term which is explained elaborately in classical texts but yet it is unable to point out exact structure related with it in human body.

SNAYU

Literally the term *Snayu* means to bind. It is explained as a structure which helps in binding the joints and helps the body in weight bearing. Structurally it has been described something similar to a fibrous in nature.

Snayu is said to be originated from *Medas* along with *Sira*. *Snayu* by *Khara Paka* and *Sira* by *Mrdupaka*.^[5] According to *Sargandhara* *Snayu* is a structure which binds *Mamsa*, *Asthi* and *Medas* of the body.^[6] *Sushruta* while emphasizing its importance has mentioned that an injury to *Snayu* will cause more harm to human body than caused by *Asthi*, *Peshi*, *Sira* and *Sandhi*.^[7]

Snayu has also been mentioned as a type *Marma*.^[8] These are 27 in number and out of these 20 are situated in *Shakha*.^[9] Majority of these *Snayu Marma* are *Vaikalyakara* in nature.

Snayu hold the *Sharir* together by joining the bones at joints like the ropes hold the wooden planks of a boat together. Like a strong boat can carry heavy load,^[10] *Snayu* enables body for weight bearing.

In human body the joints are held together by ligaments and joint capsule. The tendons crossing the joint also help in its stability. The muscles which cover the joint also provide it with strength and protection. Ligaments, tendons and fasciae are all made up of connective tissues. They are histologically similar in structure and they differ in the way they connect structures.

Ligaments bind joints by connecting bones. They provide stability to the joint. While tendons connect bones to muscles. They enhance the stability of the joint which they cross. Sinew is the term used for tendon in older texts. It means a fibrous tissue which supports and gives strength. This term has similar meaning to that of *Snayu*. Sinew term is also used for nerve and the term nerve means to give strength or vigor. Fasciae are structure which enclose, separate and attaches muscles. It literally means a band, bandage, ribbon or bundle.

The number of *Snayu* mentioned by *SushrutaSamhita* are 700.^[11] These are further divided region wise. But it is still unclear about the anatomical structures which make up these *Snayu* in our body. There are many structures like tendons, ligaments, nerves, muscle tissue etc. which can be related to *Snayu*.

It is really difficult in current scenario to identify and establish the number and classification of *Snayu* mentioned by *Acharya Susrutha*. Structurally and functionally the structure should be having a binding property and should be fibrous in nature. Even though the term *Snayu* comes across a lot of time in classics in relation to *Nidana* and *Chikitsa*, in context of *Sharir rachana* the explanation are inadequate and not self-explanatory. There is a lack of detailed study regarding the exact structure and enumeration of *Snayu* mentioned by *Acharya Sushruta*.

MATERIAL AND METHODS

- 1) Review of *Ayurveda* literature from *Ayurveda* classics including relevant commentaries.
- 2) Relevant modern literature has been consulted for comparative study and drawing inference and justification.
- 3) Other print media, online information, journals, books, magazines etc.

DISCUSSION

The location of *Aani Marma* is three *Angula* above on either side of the *Kurpar* as mentioned in classics. Its *Pramana* is $\frac{1}{2}$ *Angula*.^[12] Here mainly biceps tendon on anterior aspect and triceps tendon on posterior aspect at the distal end of the upper arm are present. Due to predominance of tendon it is considered as *Snayu Marma*. Many other structures are also present in the area such as brachial artery, median nerve, radial nerve, ulnar nerve, musculocutaneous nerve, coracobrachialis muscle, biceps brachii and triceps brachii. Muscles, blood vessels and other tissues are present in the area but mainly it is rich in ligaments, tendons and nerves. Therefore, it is classified as *snayu marma*. When *aani marma* is injured due to any external injury all the structures comprising the structure of *aani marma* are effected but due to the main involvement of the *snayu* component, the symptoms developed are mainly due to effect of injury to *snayu* component. According to *Aghataj Parinaam*, *Ani Marma* is *Vaikalyakara Marma*. *Vaikalya* means “deformity” and *kar* means “forming”. So any injury to this *marma* causes deformity. According to *acharya Sushruta* injury to *aani marma* causes *shopha abhivruddhi* (extensive swelling) and *stabhdta* (stiffness) of upper limb.^[13] In the same way, any injury such as tearing of biceps tendon and triceps tendon, may lead to inflammation and stiffness of the arm with following deformities such as extension and flexion of the elbow and supination of the forearm. All these symptoms or deformity have very much close resemblance with the *Ani Marma Viddha Lakshana*.

CONCLUSION

There is no clear description of anatomical structures forming the *marma* points in our classical texts. Present era demands scientific description of each and every concept. After careful review of *ayurved* and modern literature and analyzing both of them by looking into the structures present at the area of *aani marma* mainly tendons of biceps and triceps are present at the corresponding area. Moreover, the symptoms of injury such as inflammation and stiffness in the area are same as described by *acharya Sushruta* in the context of injury to *aani marma*.

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