

ANATOMICAL STUDY OF SHIRO -MARMA FROM AYURVEDA LITERATURE

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ABSTRACT

Ayurveda is a holistic ancient Indian medical science which treats physical and mental disorder. Out of the unique concept of ayurveda, marma is one of them. Vital spot are known as marma, these vital spots may be considered as artery, vein, nerve, bone, ligament, tendon, Apo neurosis, joint, cord or membrane. Ayurveda describes one hundred seven marma according ayurveda has been describe as vital spots which are characteristic of life contributing to or essential for life. Out of one hundred seven marma *shirah* (head), *hridaya* (heart), *basti* (bladder) are caller as *trimarma*. Trimarma are also called as “tripod of life” because they are more *sadhyopranhara marma* (instant death) than other marma. The vital breath lives in *Sira*, *Hridaya* and *Basti* in

which prana resides so every person should protect this vital spot. All these 3 *marmas* are *sadyapranhar* and thus they are a center of Agni and vata dosha and so physiologically they play vital responsibility in maintaining the health. Among these trimarma *Shira* is having prime importance. **Aim:** To study Anatomical perspective of shiro marma from ayurveda classics. **Materials and Methods:** For this study, only textual have been used, from which various references have been collected. **Conclusion:** Central nervous system, cardiovascular system and urinary system can be correlated with ayurveda trimarma concept head (*sira*), heart (*hridaya*), bladder (*basti*) respectively. i.e we can correlate as this three marmas are the organs of body of different systems- nervous, cardiovascular and urinary system. All the sense organs and channels carrying the sensory and vital impulses from *shira*, hence, it is included in Trimarma. *Shiromarma abhigata means injury to head due to external or internal factors*. This article enlightens about importance of *shiromarma*.

KEYWORDS: *Marma, Trimarma, Tripod of life, sadyapranhara marma, prana.*

INTRODUCTION

Marma are said to be the sites where there is the conglomeration of *Mamsa, Sira, Snayu, Asthi* and *Sandhi* and at these places *Prana* resides specially by nature.^[1] Marma are the vital areas of the body. The word Marma comes from Sanskrit origin word '*mri*' meaning death. The Sanskrit phrase, '*Marayate Iti Marmani*', also means death or damage to body happens seriously. Hence these areas are called *Marma*.^[2] Marma are formed by six vital elements i.e *jala tatva- Soma, maruta-vaayu, agni- tejas, satva, raja* and *tama* and where *Jivatma* resides. Hence, any injury to marma damage to the body or often fatal.^[3] *Charakacharya* has described marma as a vital part, on trauma causes severe pain or sudden death. Total number of 107 marma has been described by *Acharya*.^[4] *Sira* (head), *Hridaya* (heart) and *Basti* (bladder) are called as tri-marma because these three are more essential for life other than 107 marma.^[5] Marma of the trunk are more vital than the Marma of extremities, as the extremities are connected to and depend on the trunk. Even among all *Trimarma* are more important. All *trimarma –siraha, hridaya, basti* are *sadyapranhar* and constituted with *Agni* and *vata dosha* and also they plays an important role in maintaining the health physiologically. Among these *trimarma, shira* is having prime importance. This three marmas are comes under the category of *sadyopranhar marma* means injury to this vital spots cause death. *Charkacharya* in not only in *sharir sthan* but in *siddhi sthan (trimarmiyasiddhi adhaya)*^[6] and also in *chikitsa sthan (trimarmiyachikitsadhyay)* mentioned, complication of tri-marma and treatments of disease related to trimarma.^[7]

Any injury in the shira leads to severe life-threatening disorders. In all ayurveda classics has described specific procedures in daily regimen as well as in seasonal regimen for its protection and prevention of disorders threatening the shiro –marma such as *ermine therapy, dhumpun*, anointing of head etc. *murdha tailm*, is the procedure explained by *acharya vagbhatta* for prevention of disorders pertaining to head region. Due to use of *Moordhni tailam* controls aggravated *vayu* and *pitta* in the head.^[8] Aggravated *vata* and *pitta* would lead to diseases of brain, nerves and sense organs by producing degenerative and inflammatory changes respectively. On pathological changes due to vitiation can cause irreversible damage in these organs.

AIM

To study Anatomical perspective of shiro marma from ayurveda classics.

OBJECTIVES

Literature review on shiromarma with its clinical significance.

METHODOLOGY

Material collected from various ancient literature, Samhitas, commentaries, Ayurvedic classical texts, journals and research papers.

Total number of marma

Total 107 marmas are categorized these 107 marma according to their origin, effect of injury and place.

Vagbhata mentioned 107 marma, with total 9 numbers of *dhamani* marma.^[9]

Trimarma

In charak *sutrasthan adhyaya*, total 10 dashpranayatana (site of *Prana*) are explained in which trimarma (head, heart, bladder) are included in *daspranayatana*.^[10] One should always protect these three Marma from any types of injuries, because on injury to the marma, destroy life of a person. Trimarma are categorized under *Sadyahpranahara* Marma.^[11] *Sirah*: From the *sirah*, all the channels carrying the sensory and vital impulses and sense organs from the *Sirah* are like the rays which are originated from the sun. This verse truly signifies *Sirah* correlates it completely to the Brain.^[12]

Sirah marma

Derived from the root *Sru* with *Asun Dhatu*, That which remains on top, above other like a mountain or horn is *Sirah* on which the other body organs dependent for their function is *Sirah*.

Definition and Site

Acharya Charaka in *Sutra sthana* gave the definition of *Sirah* as a structure or place situated at top in the body and there in resides the *Prana* with all the senses. So it is the best of all the organs. From this definition *siras* means Brain. It is the top or foremost region of body, head or skull (location of brain and senses). If it is injured or diseased results into death.^[13]

Synonyms^[14]

- *Uttamanga* i.e. the best *anga*-body part
- *Shirsha* i.e. top- Skull or Head,

- *Mastaka* i.e *Shiraso Urdhva Bhaga*,
- *Mastishka* i.e. *Shirastho Majja*, denotes brain, widely accepted as vital spot of body Marma.

Importance of shiro marma

Total no 19 *sadyapranhar marmas* are present in the body, out of which 15 *sadyapranhar marmas* are situated in *Shira*.^[15]

Anatomical consideration

According to ayurveda sirah marma has not been designated as one and having separate anatomical position but collectively group of *Marma* forms head region form Sirah Marma. *Urdhvajatrugata Marma* are included in *Sirah Marma* except neck *Marma*. Acharya Charaka physiologically, *Mastishka* (Brain) is the location of *sirah marma*. *Prana* and all *Indriyas* (senses) are located in *sirah marma*.

Table no. 1: Showing types of Dosha and Sirah.

Type of dosha resides in sirah	
<i>Vata dosha</i> ^[16]	<i>Prana vaayu</i>
<i>Pitta</i> ^[17]	<i>Alochaka pitta</i>
<i>Kapha</i> ^[18]	<i>Tarpak kapha</i>

Origin- In *Charak sharir sthan*, it has been said that, *Acharya Shaunak* and *Kumarshira Bharadwaja* emphasized that head of the fetus develops first, because it is the site of all the important *Indriya*.^[19] *Vagbhata* has compared human being with a tree, with roots at the top and branches at the bottom and defined head as a site where all sense organs along with the *Prana* resides.^[19] As consciousness is present in it, it is accepted that it is supreme of all organs. The dependent is also destructed as soon as base is vanish. So, destruction of *prana* with the destruction of any of the three Marma. Hence, it is necessary to protect marma from external as well as internal injuries.^[20]

Table no. 2: Marma within sirah marma.^[21]

Sr. no.	Marma
1	<i>Vidhura</i>
2	<i>Phana</i>
3	<i>Apanga</i>
4	<i>Avarta</i>
5	<i>Utkshepa</i>
6	<i>Shankha</i>

7	<i>Sthapani</i>
8	<i>Simanta</i>
9	<i>Shringatak</i>
10	<i>Adhipati</i>

Table no. 3: Ayurveda *Shira-sharir*.^[22]

Sr. no.	Marma	Total
1	<i>kapalasthi</i>	6
2	<i>sevani</i>	5
3	<i>asthisabghat</i>	1
4	<i>simanta</i>	1
5	<i>Pruthu snayu</i>	34
6	<i>peshi</i>	5
7	<i>masthiska</i>	$\frac{1}{2}$ Anjali pramaan

***Shiropaga hetu (Etiology of diseases of head)*^[23]**

- Suppression of natural urges (*Vegavidharana*)
- Sleeping in day time and staying up at night (*Divaswap-ratrijagaran*)
- Drinking too much alcohol (*Atimadyapaan*)
- Drinking of cold water (*Atishita ambupaan*)
- Over indulgence in sex (*Ati-vyavaay*)
- Head injury (*Shiro-abhighat*)
- Suppressing tears (*Ashru-veg dhaaran*),
- Mental distress (*Chinta*),
- Excessive swimming (*Atiplavan*),
- Worms (*Kphaj-raktaj krumi*),
- Excessive talking (*Ati-vaak*),
- Exposure to dust, smoke, hot climate
- Excessive consumption of heavy, sour and *harita varga* items will leads to manifestation of diseases of head.

***Symptoms of shiromarmaghat (Injury of sirah marma)*^[24]**

- Rigidity of neck (*Manyastambha*),
- Diseases of face and tongue (*Mukha-jivha roga*),
- Facial paralysis (*Ardita*),
- Giddiness (*Bhrama*),
- Darkness in front of eyes (*Tamak*),

- Squeezing pain (*Shoola*),
- Loss of motor functions (*Kriyahani*),
- Cough (*Kasa*),
- Respiratory difficulty (*Shvashkrichata*),
- Rigidity of jaw (*Hanustambha*),
- Stammering (*Gadgadtva*),
- Ptosis (*Akshinimesha*),
- Vibration of cheeks (*Kampa*),
- Yawning (*Jrimbha*),
- Salivation (*Lalastrava*),
- Loss of voice (*Mukatva*)

Abhighataj lakshanas of each marma in sirah^[25]

- Injury to *asthi dhatu* predominant marma-*Sankha marma* leads to severe pain and anxiety because no matter what management is done the pain persist.
- Injury to *sandhi* predominant marma –*adhipati marma*, because of *agnitatva* predominance, further worsen the symptoms.
- In case of *sadhyo-pranahara marma*, due to predominance of *Agnitatva*, so it becomes immediately fatal when vitiated by any injury or aggravated *vayu*. It will results in depletion of the *shareerika dhathu* and because of its *asukari* nature it speeds up the process of destruction, thereby resulting in immediate death of the injured person. The symptoms caused by injury to *sadhyo-pranahara marma* are followed by death within 7 days if immediate and proper emergency management is not done.
- In the *abhighata lakshana* of the *krikatika marma*, *chalamoordata* is mentioned. Injury to the *krikatika* which is one of the type of *vaikalyakara marma* leads to deformity i.e - inability to hold head in normal position.
- *Vidhur marmaghat* which is a *shirogata vaikalyakara marma* leads to *bhadhiryam* (loss of hearing).
- Injury to the *phana marma* resulting in *gandha adyanta*.
- Injury to *Matrika* and *Sringhataka marma* produces various kinds of severe pain and many diseases.
- *Viddha lakshana* for the *shirogata vaikalyakara* marmas such as *Apanga* and *Aavartha marma*. leads to lossof vision.

- *Abhigata* on *seemanta marma* leads to insanity, fear of things and loss of memory.

Table no. 4: Showing details of shirogat marma.

Marma	Number	Types	Location	Pramana
<i>Neela</i>	2	<i>Sira</i>	On either side of <i>kanthanadi</i>	<i>Swa-panitala</i>
<i>Manya</i>	2	<i>Sira</i>	On either side of <i>kanthanadi</i>	<i>Swa-panitala</i>
<i>Matrika</i>	8	<i>Sira</i>	On either side of neck region	<i>Swa-panitala</i>
<i>Krikatika</i>	2	<i>Sandhi</i>	Junction between the <i>shiras</i> and <i>greeva</i>	<i>Ardhangula</i>
<i>Phana</i>	2	<i>Sira</i>	On the internal aspect of <i>nasa sroto-marga</i> on it's either side.	<i>Ardhangula</i>
<i>Vidhura 2 Snayu Ardhangula</i>	2	<i>snayu</i>	Behind and below the ear	<i>ardhangula</i>
<i>panga</i>	2	<i>sira</i>	Below the end of eyebrow and outside the orbital region	<i>ardhangula</i>
<i>Aavartha</i>	2	<i>sandhi</i>	Just above the eyebrow	<i>ardhangula</i>
<i>Sankha 2 Asthi Ardhangula</i>	2	<i>asthi</i>	Above the ending of eyebrow in the midway between the <i>karna andlalal</i>	<i>ardhangula</i>
<i>Utkshepa 2 Snayu Ardhangula</i>	2	<i>Snayu</i>	Just above the <i>sankhamarma</i> at the beginning of hair in <i>scalp</i> .	<i>Ardhangula</i>
<i>Sthapani</i>	1	<i>sira</i>	Between the two eyebrows	<i>Ardhangula</i>
<i>Seemantha</i>	5	<i>sandhi</i>	In the suture-regions of scalp.	<i>Swa-panitala</i>
<i>Sringhataka</i>	4	<i>sira</i>	<i>Sira</i> which is located in the internal aspect of head and which is equidistant from	<i>Swa –panital</i>

			<i>grana, srotra, akshi and jihwa.</i>	
<i>Adipati</i>	<i>1</i>	<i>Sandhi</i>	In the internal aspect of back of head region where there is confluence of <i>sira</i> .	<i>Ardhangula</i>

Table no. 5: Showing Nature and Abhigat lakshanas of shirogat marma.

<i>Marma name</i>	<i>Nature</i>	<i>Symptoms on aghat</i>
<i>Matrika</i>	<i>Sadyopranhar marma</i>	<i>1. Indriyaartheshu asamprapthi</i>
<i>Sankha</i>	<i>Sadyopranhar marma</i>	<i>2. Mano bhudhi viparyaya</i>
<i>Sringhataka</i>	<i>Sadyopranhar marma</i>	<i>3. Rujascha vividdha teevra</i>
<i>Adipati</i>	<i>Sadyopranhar marma</i>	<i>4. Marana</i>
<i>Seemantha</i>	<i>Kalantarpranhar marma</i>	<i>Samanyaviddhalakshana:-</i> <i>1. Dhathu kshaya</i> <i>2. Vedana</i> <i>3. Marana</i> <i>Visheshaviddhalakshana:-</i> <i>1. Unmada</i> <i>2. Bhaya</i> <i>3. Chittanasha</i> <i>4. Marana</i>
<i>1. Utkshepa</i>	<i>Vishalyaghna marma</i>	<i>Death occurs if the shalya is removed</i>
<i>2. Sthapani</i>	<i>Vaikalyakar marma</i>	<i>Mookata</i>
<i>Neela</i>	<i>Vaikalyakar marma</i>	<i>Swaravaikrita</i>
<i>Manya</i>	<i>Vaikalyakar marma</i>	<i>Arasagrahita</i>
<i>Krikatika</i>	<i>Vaikalyakar marma</i>	<i>Chalamoordata</i>
<i>Vidhura</i>	<i>Vaikalyakar marma</i>	<i>Bhadhiryam</i>
<i>Phana</i>	<i>Vaikalyakar marma</i>	<i>Gandha ajnanam</i>
<i>Apanga</i>	<i>Vaikalyakar marma</i>	<i>Dristyupaghata</i>
<i>Aavartha</i>	<i>Vaikalyakar marma</i>	<i>Dristyupaghata</i>

DISCUSSION AND CONCLUSION

Location of Sirah is on the top or foremost region of the body which is very important structure or part of the body as it is location of brain and senses etc. One of the Synonyms - Uttamanga clarify its important as Marma. While *murdha* clarify that injury to which leads to death of a person. It may be considered as skull with brain when *mastishka* is used as a synonym its. As *sirah* is included in *dashpranayatana*, so any types of disease afflicting to *pranayatana*, further produces complexity of disease. So as a result prognosis of Trimarma Vyadhis are more severe than others. Chakrapani explains the importance of *sirha* as it has capability of hosting body. Hence, *sirah* is highlighted than the other *marma* of the body. All total 107 marma have been explained in detail in Ayurveda classics, through which more

importance is given on *Trimarma* in order Sirah, Hridaya and *basti* as tripod of life. Still there is no adequate techniques to make out their original structural aspects involvement in particular *Marma Sthana* but ancient view of marma was evident. In modern terminology, *trimarma* are the superficial parts as well as systemic organs. Injury to this *trimarma* leads to *sadya pranahara* means death within 7days. Practical approach of marma is to as to protect vital points. External trauma that directly injured the Marma in turn creates disturbance in the homeostasis of the body. According to Acharya charaka, marmas are not only affected by external injury or trauma but also it is affected by the vitiated *vata*, *pitta*, *kapha dosha*. This highly vitiated *doshas* after certain period of time (*kala-sthansanshrayavastha*) disturb the function of trimarma. so it is necessary for the physician to understand exact pathogenesis.

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