

## A CRITICAL REVIEW OF SHANKHA MARMA WITH SPECIAL REFERENCE TO SIGNIFICANCE OF SADYO- PRANAHAR MARMA

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### ABSTRACT

*Ayurveda* is a profound system of mind-body medicine and natural living. *Marma* (vital points) is a unique and important concept discussed in *Ayurveda*. The *Marma Shareera* has been well explained in detail by *Acharya Sushruta* and *Acharya Vagbhata* in their respective *Samhitas*. *Acharya Charaka* has given emphasis on *Trimarma*. The *Marmas* are said to be "Jeevasthanas" (Site of life) and they are 107 in number. Trauma to these vital points leads to instant death, rigorous pain or enduring disability. One among them is *Shankha Marma*, present in between the tragus of the ear and the Lateral Canthus of the eye, on each side. It is present at the Temporal bone. After collecting information from various ancient texts and detailed dissection on cadaver, the structures present at the site of *Shankha Marma* can be understood as temporal bone along with temporalis muscle, temporal and internal Carotid artery, temporal vein, facial and corda tympani nerve. As per the ancient texts, it is a *Sadyo-pranahara Marma*, resulting in Sudden death due to excess haemorrhage and shock. But, if the injury is not very severe or distal part of *Marma*, it can act as *Kalantara pranahara Marma* (death within 15 days).

**Key Words:** *Ayurveda, Marma, Shankha Marma, Sadyo-pranahara Marma, Dissection*

### INTRODUCTION

*Ayurveda* is a profound system of mind-body medicine and natural living. It is the God gifted very ancient and the first medical science which was memorized and composed by the originator *Brahma*<sup>1</sup> (*Swayambhoo*) and considered it as the branch of *Atharva-veda*. *Ayurveda* means "the science of life". Life is the combination of four factors (*Sharir, Indriya, Satwa* and *Atma*)<sup>2</sup>. Detail scientific study of the subject *Sharir Rachana* is well organized by *Ayurveda*.

The *Marma Shareera* is a unique concept and interesting topic of *Ayurveda*.

The *Marmas* are said to be 'Jeevasthanas' and are 107 in number<sup>3</sup>. They are distributed throughout the human body. The *Marma Shareera* has been explained by *Acharya Sushruta* in "Pratyeka Marma Nirdesha Shareera"<sup>4</sup>. In *Marma*, there is aggregation of *Mamsa* (muscles), *Sira* (veins), *Snayu* (ligaments and supporting structures), *Asthi* (bones), *Sandhi* (joints) and particularly *Prana*<sup>5,6</sup> (*Agni, Soma, Vayu, Satva, Raja, Tama, Panchendriya, and Bhutatma*).

*Marma* point is defined as anatomical site where *Mamsa, Sira, Snayu, Asthi* and *Sandhi* meet together. This does

not mean that all the structures must be present collectively at the site of the *Marma*. The concept of *Marma* is grossly correlated with traumatology. If there is some injury to any *Marma*, that either can result into death or can cause various diseases or deformities which are difficult to cure<sup>7</sup>. *Acharya Sushruta* and *Acharya Vagbhata* have mentioned various types of *Marmas* according their position, constitution, number, dimensions and prognosis of injury to it. There are five types as *Sadyo-pranahara*, *Kalantara pranahara*, *Vishalyaghna*, *Vaikalyakara* and *Rujakara* according after-effect of injury to marmas<sup>8</sup>. Out of them, *Sadyo-pranahara Marmas* are the points where injury causes sudden death<sup>9</sup> (when injury at the *Madhya viddha*/central region) and if there is injury at the *Anta viddha* (peripheral region) of those *Marma*, they will act like *Kalantara Pranahara*<sup>10</sup> (death within 15-30 days). *Sadyo-pranahara Marmas* are total 19 in number. *Shankha Marma* is explained as *Asthi marma*<sup>11, 12</sup> (based on constitution), total 2 in number- 1 each on temporal bone. The word *Shankha* means 'Conch' the temple. It controls sense organ of touch and Vata<sup>13</sup>.

Clinicians of old times have collected detailed information regarding injuries and their prognosis on every vital part of body and have presented that theory in a very concise form known as *Marma-Shareera*. There is need to understand this ancient science in modern ways as in today's world, incidences of traumas in the form of accidents, natural calamities, wars etc. have increased. The science of *Marma* is very vast. Out of all the vital points explained, a point in head- *Shankha Marma* is selected. Its prognosis after injury is given in books as

*Sadyo-pranahara* (sudden death)<sup>14, 15</sup> which is the common condition seen today specially in accidents. An effort is taken to elaborate it with the help of available literature and cadaveric dissection to understand the anatomical structure present at its site.

## MATERIALS AND METHODOLOGY

### materials

1. Literature of *Ayurvedic* and Modern Science available from Vedic era to Present era.
2. Two cadavers- one male, one female.
3. Dissection kit.

### methodology

Study type: Observational study

1. Literature study: Collection of information regarding *Shankha Marma* from ancient texts like *Sushruta Samhita*, *Ashtang Hridayam* is done in detail.
2. Cadaveric study: Dissection of two cadavers (one male, one female) was done in dissection hall of department of anatomy- Y.A.C. P.G.T. & R.C., Kodoli, Kolhapur. At first markings were done on cadaver regarding the position of *Shankha Marma* in *Shirapradesha* explained in *Ayurvedic* texts. Temporal region (in *Shira pradesha*) was dissected as per the guidelines given in Cunningham's manual of practical anatomy<sup>16</sup> and Human anatomy by B. D. Chaurasia<sup>17</sup>. Superficial and deep dissection was done carefully to study the structures present at the marked site.
3. The information collected from literature was co-related to the findings from dissection and conclusion was drawn.

## OBSERVATIONS

The site of *Shankha Marma* is given in *Sushruta Samhita* as- It is situated at the lateral end of *Bhru* (Eye-brows), in between the *Karna* (Ear) and *Lalaata* (forehead)

By considering all these points, a region was marked on cadaver in the temporal region. On the detailed dissection of the marked region following structures were seen-

1. Temporal is muscle, temporal fascia and a thin extension and a thin epicranial aponeurosis from which the extrinsic auricular muscle arises.
2. Superficial temporal artery, middle meningeal artery, temporal vein.
3. Facial nerve and corda tympani nerve.
4. Temporal bone.

## DISCUSSION

The study was carried out in two parts- literature study and cadaveric study. *Shankha Marma* is present on lateral aspect of skull bones and it is completely formed by temporal bone.

The points to be understood regarding *Shankha Marma* from literature study were-

1. They are total 2 in number- 1 in each side
2. Based on predominance of anatomical structure, it is *Asthi Marma*
3. Based on prognosis of injury to it, it is *Sadyo-pranahara Marma* (*Agni Mahabhuta dominant*)
4. It is on lateral border of *Lalaata* (forehead) near to the *Karna* (Ear) upwards to the eye brow. The word *Shankha* means 'Conch' the temple, temporal bone. It is a bony structure.
5. *Shankha Marma* measures  $\frac{1}{2}$  *Anguli* (finger breadth) in dimensions. (1 *Anguli* is approximately 2cm, so  $\frac{1}{2}$  means 1 cm in diameter.)

The structural study of *Shankha Marma* with the help of cadaveric dissection showed that there is aggregation of Temporal bone, Temporalis muscle, Temporal and internal carotid artery, temporal vein, Facial and corda tympani nerve. Depending upon the dominance of anatomical structure present in that site, it termed as *Asthi Marma*. So, injury to this region can result into damage of any of these structures, specially blood vessels or nerves.

The study reveals that the anterior and posterior branches of middle meningeal artery are covered by temporal bone, due to irregular 'H' shaped suture at the point of Pterion, and the thinness of the bone convert this region into a weak area, therefore a comparatively trauma of less intensity causes fracture of bone which is main cause of the laceration of the artery.

## CONCLUSION

The *Shankha Marma* is completely formed by temporal bone. The structures those are present in the region of *Shankha Marma* are-

1. Temporalis muscle.
2. Three arteries-Temporal and internal carotid artery, middle meningeal artery, Temporal vein with tributaries
3. Two nerve- Facial and corda tympani nerve
4. Temporal bone.

*Shankha Marma* can be termed as *Sadyo-pranahara Marma* as injury to its *Madhya viddha* (central region) causes sudden death due to haemorrhage and shock because of rupture of middle meningeal and temporal artery. When injury occurs at the *Anta viddha* (peripheral region) of this *Marma*, it will get converted into *Kalantara Pranahara* (death within 15-30 days). This

vital point is very fragile due to bony condition and the vessels being placed in such a manner that the vulnerability is enhanced.

## REFERENCES

1. Dr. Bramhanand Tripathi, Charak Samhita-I, Sutrasthana chapter 1, Citation no. 04, Reprint 2004, Chaukhambha Surbharati Prakashan Varanasi, Page no. 04.
2. Dr. Bramhanand Tripathi, Charak Samhita-I, Sutrasthana chapter 1, Citation no. 42, Reprint 2004, Chaukhambha Surbharati Prakashan Varanasi, Page no. 13.
3. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 02, Reprint, March 2006, Meharchand Lachhmandas Publications, Page no. 183.
4. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 01, Reprint, March 2006, Meharchand Lachhmandas Publications, Page no. 183
5. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 22, March 2006, Meharchand Lachhmandas Publications, Page no. 186
6. Dr. Bramhanand Tripathi, Ashtang Hridayam, Sharirasthana chapter 4, Citation no. 38, Reprint 2012, Chaukhambha Sanskrit Pratisthan, New Delhi, Page no. 394
7. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 44, March 2006, Meharchand Lachhmandas Publications, Page no. 202
8. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 14, March 2006, Meharchand Lachhmandas Publications, Page no. 185
9. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 23, March 2006, Meharchand Lachhmandas Publications, Page no. 186
10. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 29, March 2006, Meharchand Lachhmandas Publications, Page no. 189
11. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 12, March 2006, Meharchand Lachhmandas Publications, Page no. 185
12. Dr. Bramhanand Tripathi, Ashtang Hridayam, Sharirasthana chapter 4, Citation no. 40, Reprint 2012, Chaukhambha Sanskrit Pratisthan, New Delhi, Page no. 395
13. Dr. Avinash Lele-Dr. Subhash Ranade-Dr. David Frawley, Secrets of Marma, Chaukhamba Sanskrit Pratisthan, Delhi, First Edition 1999, Reprint 2011, Page no. 83
14. Dr. Bhaskar Govind Ghanekar, Sushrut Samhita (Sharir sthana), Chapter 6, Citation no. 15, March 2006, Meharchand Lachhmandas Publications, Page no. 185
15. Dr. Bramhanand Tripathi, Ashtang Hridayam, Sharirasthana chapter 4, Citation no. 52, Reprint 2012, Chaukhambha Sanskrit Pratisthan, New Delhi, Page no. 397

16. G. J. Romanes, Cunningham's Manual of Practical Anatomy, Vol. 1, ELBS edition of 15<sup>th</sup> edition, Reprint, 1994, Oxford University press, Page no. 129-146.
17. B.D.Chaurasia, Human Anatomy, Vol. 2, Reprint, 2008, CBC Publication Delhi, Page no.45-61

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