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

Neeraj Kumar Pali¹, Chhaya V. Patil², Sayali Uday Barve³

¹PG Scholar, Department of Sharir Rachana, ²H.O.D., Department of Sharir Rachana
³PG Scholar, Department of Sharir Rachana
Y.A.C. P.G.T. & R.C., Kodoli, Dist. Kolhapur, Maharashtra, India

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 Brahma¹ (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)². 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 number³. They are distributed throughout the human body. The Marma Shareera has been explained by Acharya Sushruta in “Pratyeka Marma Nirdesha Shareera”⁴. In Marma, there is aggregation of Mamsa (muscles), Sira (veins), Snayu (ligaments and supporting structures), Asthi (bones), Sandhi (joints) and particularly Prana⁵,⁶ (Agni, Soma, Vayu, Satva, Raja, Tama, Panchendriya, and Bhutaatma).

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. 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, Vishalayghna, Vaikalyakara and Rujakara according after-effect of injury to marmas. Out of them, Sadyo-pranahara Marmas are the points where injury causes sudden death (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 (death within 15-30 days). Sadyo-pranahara Marmas are total 19 in number. Shankha Marma is explained as Asthi marma (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.

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) 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 and Human anatomy by B. D. Chaurasia. 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 Karma (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 Karma (Ear) upwards to the eye brow. The word Shankha means ‘Conch’ the temple, temporal bone. It is a bony structure.
5. Shankha Marma measures ½ Anguli (finger breadth) in dimensions.
   (1 Anguli is approximately 2cm, so ½ 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.

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CORRESPONDING AUTHOR
Dr. Neeraj Kumar Pali
PG Scholar, Department of Sharir Rachana Y.A.C. P.G.T. & R.C., Kodoli, Dist. Kolhapur, Maharashtra, India
Email: drneerajpali@rediffmail.com

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