Phana Marma - A Cadaveric Study

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ABSTRACT

Marmas are the vital points in the body. The word Marma derived from the Sanskrit root “Mru” and applies to a part or a spot of vital importance in the body, which if injured results in serious consequences. It also denotes the vital force of life. About 107 Marmas have been explained in Ayurveda, according to Acharya Sushruta, Jathrubudva Marmas are considered as major places of Prana and Phanamarma is one of them belonging to Vaikalya-Karamarma, located on either side of nostrils. The term Phana means expanded side of the nose or expanded hood of the serpent. When we compare the site of Phana Marma there is an difference of opinion between Acharya Sushruta and Vagbhata (Astanga Sangraha) but both explained the similar Viddhalaxana, hence to clarify the doubt regarding it’s location the study is undertaken. As no such study regarding Phanamarma has been taken up by previous scholars, this subject has attracted me to conduct cadaveric study to ascertain its anatomical limitations, which will be definitely helpful for the future scholars, as lot of dark areas are highlighted concerned to this Marma.

Key words: Phanamarma, Vaikalyakara Marma, Gandhaaganana.

INTRODUCTION

The concept of Marma has been one of the most important subject of Ayurveda, since it forms a common meeting point for various concepts regarding their relative prognostic values. The primitive art of surgery is as old as warfare. Thus war injuries to some extent contributed for the development and growth of ancient surgery and traumatology, without the knowledge of structural anatomy, proficiency cannot be attained in the art of surgery. In ancient days the knowledge of anatomy was mainly supplied by concept of Marma.

Marmas are the vital points in the body. They are 107 in number. Any injury to these Marmastana causes either death or deformity depends on its severity. The derivation of Marma indicates that it is Jeevasthana, Sandhisthana respectively. All Acharyas defined that, it is the conglomeration of Mamsa, Sira, Swayu, Asthi and Sandhi at one place is called Marma, Prana resides specially by nature. Ashtanga Hridayakara has additionally included Dhamani as one of the component along with other structures.

Surgical operations demanded the accurate knowledge of anatomy but it seems, the concept of Marma has supplied them with the knowledge of regional anatomy and the structures involved in the region and considered the knowledge of Marma is the Ardhachiktsa (half the surgery) of Shalyatantra. During Shastra, Kshara and Agni Karmas, great care should be given to Marma Sthanas. Any injury to the Marma Sthanas can cause even death. So Shalya Chikitsaka protect Marma during these Karmas to prevent any injury. The concept of Marma is also an important classical, anatomical surface landmark for
the Siravyadha. So the knowledge of Marma Sthana is required to carry the Siravyadha.

The description of Phana is available in other contexts also. In the context of Nasya, it is explained that the medicine administered through the nasal passage first reaches the Phana, spreads to Murdha, Kantha etc. later to eliminate the Doshas. Ayurvedic literature about the concerned topic will be reviewed including the available commentaries and the structures of the region will be explored through cadaveric dissection. The modern aspects of the sense organs, structures, its applied and surgical importance also will be thoroughly studied and all possibilities related to the structure.

**AYURVEDA AND PHANA MARMA**

**Sushruta Samhitha**

Acharya Sushruta described the surface area of Phana Marma i.e. स्नोतोमागतबदे it means this Marma is lying with in Srothomarga with its surface location i.e. प्राणायामभूषयत and Vidhalaxanaiegandha Agnana, it is a Vaikalya Kara and Sira Marma.

**Ashtanga Sangraha**

Phana is located on either side of the nostrils adjoining the opening of the ears, inside, are the two Phana Marma and also it is a Vaikalyakara and Sira Marma.

**Ashtanga Hridayam**

Acharya Vagbhata described that on either side of the nostrils, adjoining the opening of the ears, inside the throat, are the two Phana Marma situated and it is also a Vaikalyakara and Siramarma.

**Acharya Bhavamishra**

Acharya Bhavamishra has mentioned that both side into the nostril phana marma is situated. It measures Ardha Angula, the Phana Marma is one of the Vaikalyakara Marma and its Viddha Laxana is Gandha Agyana.

**Anatomy**

**Olfactory Receptors:** The olfactory receptors are embedded in a specialized patch of yellow-tinted mucous membrane in the roof of the nasal cavity. These receptors are bipolar neurons covered with modified, non-motile cilia. Axons from the olfactory receptors enter small nerve bundles (collectively termed the 1st cranial nerve) which pass through the perforations in the cribriform plate of the ethmoid bone and promptly enter the olfactory bulb. These nerve bundles can be severed as a result of skull fractures or other pathology in this region with a resulting partial or complete anosmia (loss of sense of smell).

**Olfactory Bulb:** The olfactory bulbs lie on the ventral aspect of the frontal lobes. The olfactory bulbs and all other parts of the olfactory pathways are telencephalic derivatives. Within the olfactory bulbs the olfactory nerves synapse on mitral cells whose axons project directly to the olfactory cortex.

**Olfactory Tract:** The olfactory tract connects the olfactory bulb with the cerebral hemispheres. Axons of mitral cells pass directly back to the olfactory cortex on the ipsilateralside.

**Surgical Importance**

1. Injury to the nasal mucosa, olfactory nerve fibres, olfactory bulbs, or the olfactory tracts may lead to impaired smell. In severe head injury, the olfactory bulbs may be torn away from the olfactory nerve fibres may be torn as they pass through a fractured cribiform plate. If all the nerve bundles on one side are torn, a complete loss of smell will occur on that side consequently, anosmia may be a clue to a fracture.

2. Trauma to the anterior base of the skull and dura may be associated with fracture of the nasal bones which leads to CSF leak from the nose. It is called as CSF rhinorrhoea.

**Methodology**

- The literary study on Phana Marma will be collected from the Brihathrayi’s, Laghuthrayi’s and other classical texts including dictionaries, journals, presented papers, previous dissertation works done etc. and correlated, analyzed with the knowledge of contemporary science on the subject.
Dissection of regional anatomical study of *Phana Marma* will be done in Four Male Cadavers in Dept. of *Rachana Shareera*, N. K. Jabashetty Ayurveda Medical College & PG Center, Bidar. Observations are analyzed and correlated with the view of ancient description of *Phana Marma* by *Acharyas* with special reference to modern science.

The method of dissection was followed by the Cunningham’s Practical Anatomy in the maximum way.

Anatomical structures found in the region of *Phana Marma* were confirmed with the help of cadaver dissection conducted in Department of Rachana Shareera, N. K. Jabashetty Ayurveda Medical College & PG Center, Bidar.

**DISSECTION FINDINGS**

- Fig. 1: Superior concha
- Fig. 2: Middle concha
- Fig. 3: Inferior concha
- Fig. 4: Opening of auditory tube
- Fig. 5: Site of olfactory nerve & mucous membrane
- Fig. 6: Olfactory bulb & tracts
CONCLUSION

Phana Marma is one among the Urdhwajathrugatha Vaikalyakara Marma, Ardhaanguli Pramana, Siramarma, they are two in numbers, if injured causes Gandhaaganana or anosmia and deserves special importance as it is related with all the sense organs. On the basis of available references and after the cadaveric dissection, it was concluded that the Phana Marma may be correlated with the region of Olfactory bulb, Olfactory nerve fibres and Upper part of nasal mucous membrane. Trauma on Phana Marma causes fracture of cribiform plate of ethmoid bone causes rupture of ethmoidal artery which supplies mucus membrane of nasal cavity resulting to anosmia. Phana means hood of the serpent and the olfactory bulb also looks like a hood of the serpent and both the numbers are also same i.e. two.

REFERENCES


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