

A CRITICAL REVIEW OF VIDHURA MARMA WITH REFERENCE TO THE SIGNIFICANCE OF DHAMANI MARMA

Channamallikarjun¹ Tiwari S.P.¹ Murthy A. R. V.²

¹Dept. of Rachana Sharir, ²Dept. of Kayachikitsa, G. J. Patel Ayurveda College & R. C, New V.V. Nagar, Anand, Gujarat, India

ABSTRACT

Marma Sharira is an ancient traumatological anatomy presented by both *Sushruta* and *Vagbhata*. Though the presentations are grossly similar, some differences particularly seen in relation to classification are very remarkable. *Sushruta* has presented five types of *Marmas* on structural basis, whereas *Vagbhata* by adding an extra *Dhamani Marma* has submitted the same into six types. Under the *Dhamani Marmas* which are nine, he has presented *Vidhura Marma*, the alone *Marma* which belongs to head region the most dangerous region of the body prone for deadly injuries. It is considered as *Snayu Marma* by *Sushruta* and as *Dhamani Marma* by *Vagbhata*. Under Anatomical study assessing the injury effects on *Vidhura Marma*, it is observed that deafness is a reality on the ground of underlying structures, i.e. stylomastoid artery, facial nerve, mastoid air cells etc. The chance of deafness is due to the injury on stylomastoid artery rather than the facial nerve. We couldn't find such structures which can be substantially considered as a *Snayu* but we find an artery which can be taken under the class *Dhamani*.

Keywords: *Ayurveda, Marma, Vidhura Marma*

INTRODUCTION

Science of *Ayurveda* is an ancient health science devoted to the cure on human sufferings and for the care of the health of the people. In olden times the war was a common act of the people and the kings, clinicians especially engaged with the affairs of the army of the kings, as being the custodians of the health of the warriors utilized duly the medical data of the sufferings as falling in the war fields. Injuries inflicting because of the use of the various types of weapons in the war field i.e. sword, arrow, lance, *Gada* etc. were belonging to the cut, puncture or blunt injuries involving various types of the

structures in the body like arteries, muscles, nerves, bones and the visceral organs in general and when in combination specifying *Marma*.

Clinicians of old times fully utilized the information of war injuries on the level of the site of injury, type of injury, structures suffered due to the injury, symptoms of the injury and prognosis. By applying all the information collected on this account, they duly utilized the information for scientific purposes and devised the science of traumatological anatomy which was designated as *Marma Sharira*.

Acharya Sushruta has referred 107 anatomical sites as *Marmas*. He has

presented all the *Marmas* particularly on the basis of injury results. He has specially presented *Sadyapranahara*, *Kalantara Pranahara*, *Vaikalyakara*, *Vishalyagna* and *Rujakara Marmas* categorically. He had high interest in revealing the cause of disability because of the trauma in the body. As such he has presented 44 *Vaikalyakara marmas*, under which he has given due emphasis on the disabilities especially related with the special sensory organs like vision, smell, hearing etc. By assessing the features of the injuries around these sense organs, he has elaborated the science of *Marmas* covering these organs. *Vidhura Marma* is an exclusive presentation in this account with its clinical significance specifying with the sense of hearing.

Vidhura Marma

Acharya Sushruta and *Vagbhata* both considered *Vidhura Marma* under *Vaikalyakara* category. In other classification *Sushruta* has considered it under *Snayu Marma*, where as *Vagbhata* considered it under *Dhamani Marma* on structural basis.

(a) *Karnaprushtato adhaha samshrithe vidhure, tatra badhiryam (Su. Sha 6/27)*

(b) *Karnetyadi snayumarmani kinchinnimnakare vaikalyakarini cha (Dhalana)*

(c) *Adhasthatkarnayornimne vidhure Shruthiharini (Astanga Hradaya)*

It is located just behind and below to the auricle of the ear especially at the mastoid process and its size is around *Ardhanguli* (nearly 1 cm. in radius) according to *Sushruta*. In this account *Vagbhata* has repeated the same.

Underlying Structures

Stylomastoid artery and facial nerve is specially found at the site of *Marma*

passing through the stylomastoid foramen. At remote level under the consideration of anatomical structures vestibulo-cochlear nerve and the mastoid air cells can also be included under this as they have the values in the development of complications. Injury at *Vidhura Marma* may lead to deafness (*Tatra Badhiryam*).

Significance of Dhamani Marma

Acharya Sushruta has classified 107 *Marmas* into 5 types i.e. (1) *Mamsa Marma*-11, (2) *Sira*-41, (3) *Snayu*-27, (4) *Asthi*-8 & (5) *Sandhi*-20. He has kept this version limited to these five without considering any other specific category. *Acharya Vagbhata* has classified all the *Marmas* into six types, including all five categories as presented by *Sushruta*. He has added one more specific category namely *Dhamani Marma*, under which he has especially included *Vidhura Marma* along with others. Since *Sushruta* has opined that *Vidhura Marma* is a *Snayu Marma* and also he has duly submitted the list of all the *Marmas* with vascular significance *Sira Marma*.

Here this is highly exciting to point out why not *Vagbhata* followed the same features under *Vidhura Marma* as presented by *Sushruta*. What were his specific reservations on disclosing the *Vidhura Marma* with vascular significance especially putting it in the category of *Dhamani Marma*. Since *Sushruta* has presented *Vidhura Marma* under *Snayu* category he would have certainly observed the facial nerve underlying at the site of *Marma*. What additional information *Vagbhata* could gather which had led him to say that *Vidhura* is *Dhamani Marma*.

Probably *Vagbhata* had duly perceived the following:

- Brain is an intracranial structure located in the skull.
- Function of hearing is the function of sensory organ which is directly connected to the brain having ingoing channels.
- Injury on the back of the ear leads to deafness.
- That normally injury can't directly affect to the internal structures without involving the external and superficial structures firstly.
- Because normally incoming factor cannot approach to the internal structures of the hearing and since they are resulting to deafness, what other factors may be behind the causation of deafness.

Above observations could have probably inspired *Vagbhata* to think that there should be some artery supplying to the important organs of hearing passing the site of *Marma*. It is particularly because from outer side towards inner side only an artery can pass to supply not the nerve.

Vagbhata had no doubt a highly probing vision and analyzing grey matter, otherwise such exclusive performance was impossible, *Dhamani* is very important structure which is almost developed to function for the supply of nutrients rich in *Praana* factor. If arterial supply of an organ is cut it will certainly result into loss of function of that organ, specifying to disability or otherwise because of severe loss of blood leading to death.

This fact is very well suggestive to accept the value of a *Dhamani* under the anatomy of *Marma* and also as a whole to the significance of *Dhamani Marma* for which only *Vagbhata* can be given the credit.

Observations of Dissection

On the dissection at the posterior side of auricle, particularly at the level of mastoid process, it is found that there is a canal close with the styloid process. From this canal two structures are seen passing through the canal i.e. facial nerve and stylomastoid artery. Facial nerve is a structure coming out from this canal and further it reaches to the facial region to supply the muscles of the face. Stylomastoid artery which is the branch of posterior auricular artery enters from the canal and finally enters into the compartment of ear. It supplies to the air cells of the mastoid process and finally to the tympanic membrane. It also supplies to the facial nerve which particularly has only some very minor significance with the function of hearing. Facial nerve supplies the stapedius which is attached with stapes bone an auditory ossicle.

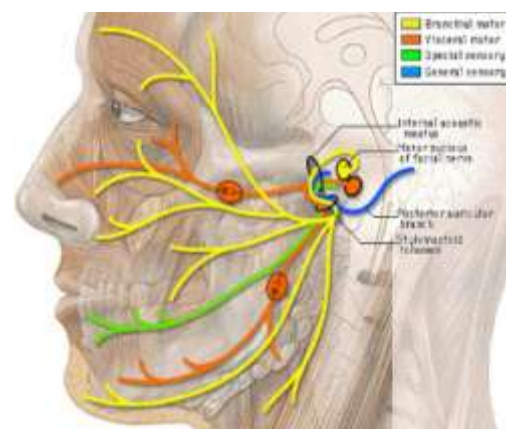


Figure 1: Functional component over view of the facial nerve

Blood Supply of Tympanic Membrane

Tympanic membrane is very important part of the organ of hearing; it functions for the reception of hearing impulses and transfers it to the auditory ossicles. Tympanic membrane functions

through the way of vibration according to the incoming sound waves. The normal status of tympanic membrane specifying to normal hearing is maintained by the supply of blood through the following arteries-

- (a) Stylomastoid artery a branch of posterior auricular artery.
- (b) Anterior tympanic a branch of maxillary artery.
- (c) Deep auricular a branch of maxillary artery.

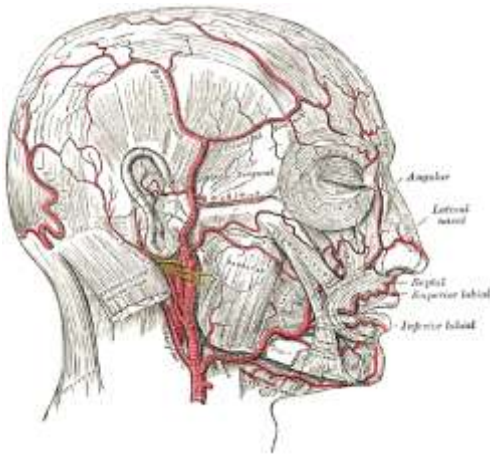


Figure 2: The Arteries of the face and scalp

DISCUSSION AND CONCLUSION

Vidhura Marma is presented by *Sushruta* as *Snayu Marma* where as the *Marma* site has no structures except facial nerve as *Snayu*, which itself has very remote relation with hearing. An injury involving facial nerve may only cause hyperacusia only if the branch supplying to stapedius muscle is affected, stretch of the nerve may even cause this.

Quoting *Vidhura Marma* as *Snayu Marma* is not very significant. It is particularly because *Vagbhata* has referred it under *Dhamani Marma*. This is very surprising that without a sufficient infrastructure available during the ancient period for anatomical studies, how *Vagabhata* could observe an arterial

structure under *Vidhura Marma*. Even though his performance is very much suggestive to submit that since the trauma is coming from outer side, and the important neural structures dealing with function of hearing are located at deeper level, therefore a trauma involving some vessel like structure i.e. stylomastoid artery can only cause the deafness perhaps this was the observation before *Vagabhata*.

The presence of stylomastoid artery in this account is suggestive to confirm that version of *Vagabhata* at the point of *Dhamani Marma* has no controversy. Nerve structure at the level of the site of *Vidhura Marma* existing in the form of facial nerve is having a very remote value and the deafness is very rare with this.

Therefore the values of Stylomastoid artery are paramount and they only attract to the complication of deafness due to trauma. The amount of deafness and the amount of blockage in the Stylomastoid artery and their correlative significance are important issues which can only be solved after an experimental study.

BIBLIOGRAPHY

- 1- Drake T, Evolution and Environment, Yale University Press, New Haven.
- 2- Elaine N. Marieb, Human Anatomy and Physiology, 6th edition, pearson Education, Inc.
- 3-Ghanekar, Sushruta Sharir, Meharchand Laxmana Das, New Delhi, 1977.
- 4-Parasuram Shastri, Sharangadhara Samhita, Purva Khand, Sharir Adhyay, Choukhmba Orientalia, Varanasi, 3rd edition 1983.
- 5-Patil V. S. "A Critical Study on Marmas" Thesis submitted for MD at BHU in 1979
- 6-Richard Snell, Clinical anatomy for medical students

7-Ross and Wilson, Anatomy and Physiology in Health and illness, 10th edition, Churchill Livingstone, London.

8-Sudhir Kumar “A Critical study of UrdhvajatrugataMarmas” thesis submitted for MD at BHU in1999

9-Susan Standring, Gray’s Anatomy, 48th edition,2008, Churchill Livingstone, Elsevier.

10-Tiwari S. P. “Study of Vaikalyakara Marmas” Thesis submitted for MD in state Ayurvedic College Lucknow in 1982

CORRESPONDING AUTHOR

Dr. Channamallikarjun

Reader, Department of Rachana Sharir,

G. J. Patel Ayurveda College & R. C,

New V.V. Nagar, Anand, Gujarat, India

Email: mdavergaon@gmail.com

Source of support: Nil

Conflict of interest: None Declared