



Review Article

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A REVIEW OF ADHIPATI MARMA

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ABSTRACT

Background: The Adhipati Marma is Sandhi Marma and Sadyapranahara in nature; measurement is about half angula. There is a controversy about sandhi in the context of Adhipati Marma. The Sushruta School thought it was Asthi Sandhi, but the recent commentator of Sushruta Samhita, like Acharaya Dalhana and Ghanekar, considered it a Sira Sandhi. Aims and objective: To analyze the structural entity of Adhipati Marma. Material and methods: Classical textbooks of Ayurveda and contemporary science, journals, publications, articles, e-journals etc., related to Adhipati Marma. Discussion: The Adhipati Marma is situated in Shira Pradesha, which is Sandhi Marma. The posterior fontanelle or lambda is an anatomical landmark in the skull, which may be delayed in the closure and can cause hydrocephalus or congenital hypothyroidism. The Torcular Herophili, or confluence of sinuses, is a highly variable structure which constitutes a network of dural venous sinuses. Injury to Torcular Herophili or confluence of sinuses is infrequent, but sepsis, thrombosis and embolism may occur, which can be fatal. Conclusion: Due to controversies of Adhipati Marma, From Sushruta's point of view, Adhipati Marma can be compared as lambda or posterior fontanelle. At the same time, Acharya Dalhan and Ghanekar's point of view may be considered lambda or Torcular Herophili or confluence of sinuses.

Keywords: Marma, Adhipati Marma, Sandhi Marma, Posterior fontanelle, Torcular Herophili

INTRODUCTION

The Marma is the area where the feeling of pain is more than the other area. Each Marma has Panchabhautik compositions like Soma, Maruta, Teja, Sattva, Rajas, Tamas and Atma. Similarly, each Marma consists of a basic body structure like Mamsa, Sira, Snayu, Asthi and Sandhi.

The Adhipati Marma is situated in the head region, Sandhi Marma¹. There is a vast controversy about the location and structure of this Marma. The Dural venous sinuses are formed by the reduplication of intracranial dura mater, which occupy in between the endosteal and meningeal layer; it absorbs the cerebrospinal fluid². They are valveless, which collect from the brain, meninges, diploe, internal ear and orbit, subdivided into paired and unpaired sinuses.

The word Adhipati means a master or king. So, the Adhipati Marma is considered superior to all the Marma points located at the body's highest point. The Adhipati Marma is situated in nature at Shira pradesha, Sandhi Marma, and Sadyapranahara. It is measured as about half angula; injury to this Marma leads to sudden death³.

The term torcular, meaning 'wine press' and 'herophili', is derived from the Ancient Greek anatomist and surgeon Herophilos. The Torcular Herophili (Figure 2) is the confluence of sinuses or the network of dural venous sinuses situated in the internal occipital protuberance². It is the location of the union of the superior sagittal sinus, straight sinus, occipital

and two transverse sinuses. The superior sagittal sinus is situated at the margin of the falx cerebri; it begins from the crista Galli and receives a vein from the nasal cavity. The straight sinus is a continuation of the inferior sagittal sinus, which lies at the junction of falx cerebri and tentorium cerebri⁴. The occipital sinus is attached at the margin of the falx cerebelli. The transverse sinus is paired; the right part is a continuation of the superior sagittal sinus, and the left part is a continuation of the straight sinus⁵.

DISCUSSION

The Adhipati Marma is situated in Shira pradesha, which is Sandhi Marma. Acharya Sushruta did not mention the exact location of Marma, but commentator Dalhan explained that it is inside the cranial cavity and made up by Sira Sandhi⁶. Sandhi means conglomeration of bones, while Acharya Sharangadhara mentions that it is the union of any two body structures. It is understood that Sira Sandhi means the anastomosis of vascular structure on the bony structure. Acharya Ganathsen explained that the particular area, known as posterior fontanelles or lambda, is the location of Adhipati Marma. The recent scholar Acharya Ghanekar considered the Adhipati Marma as Torcular Herophili or confluence of sinuses⁷.

The posterior fontanelle or lambda (Figure 1) is a triangular gap between the sagittal and lambdoid suture, completely closed within about six to eight weeks after birth⁸. The average diameter of posterior fontanelle is 0.5 cm in Caucasian (white) infants and 0.7 cm in infants of African (black) descent⁹. Delayed closure of

the posterior fontanelle is seen in hydrocephalus or congenital hypothyroidism¹⁰.

The dural venous system is more complex than the arterial system due to several connections with cerebral hemispheres and receiving blood from the scalp from diploic, meningeal and emissary veins. So, multiple complications and pathological processes can affect the dural venous sinus. Due to its valveless activity, the pathogens and neoplastic cells can move to different parts of the brain and they can allow a forward or backflow movement of blood. The most commonly affected sinus is the cavernous sinus. This sinus is vulnerable to septic thrombosis in Septic Dural Venous Sinus Thrombosis (Suppurative Intracranial Thrombophlebitis). Patients may present with acute onset of fever, signs of increased intracranial pressure, may involve cranial nerve palsies in the case of cavernous sinus involvement and it may turn into a life-threatening condition.

Injury to the dural venous sinuses is most commonly seen in depressed skull fractures over the significant venous sinuses but can also see indirect bullet wounds. A tear in a large sinus may result in air embolism and airlock developing in the heart; this is usually fatal. In the case of surgical procedure (craniotomy), direct ligation of the anterior half of the superior sagittal sinus is relatively safe with low mortality rate than the posterior half with high mortality. It is the preferable place to bur holes. So, bleeding from the sinus can be life-threatening.^{11,12} In the case of Idiopathic intracranial hypertension, Transverse sinus stenosis is the primary cause; it increases the pressure of the cerebrospinal fluid. The torcular Heterophili injury is infrequent, in one study shows that in meningiomas of venous sinuses, torcular involvement was in 19% of cases¹³.

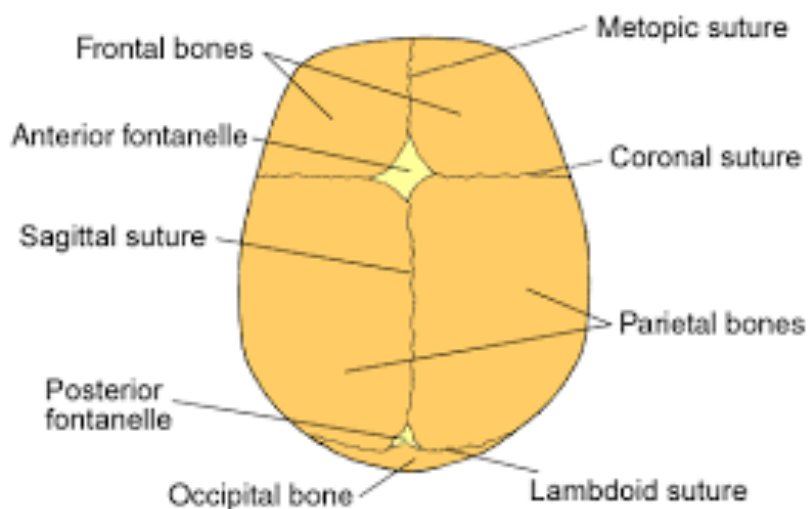


Figure 1: Normal skull of new-born (p.c. - Stanford Medicine Children’s Health)

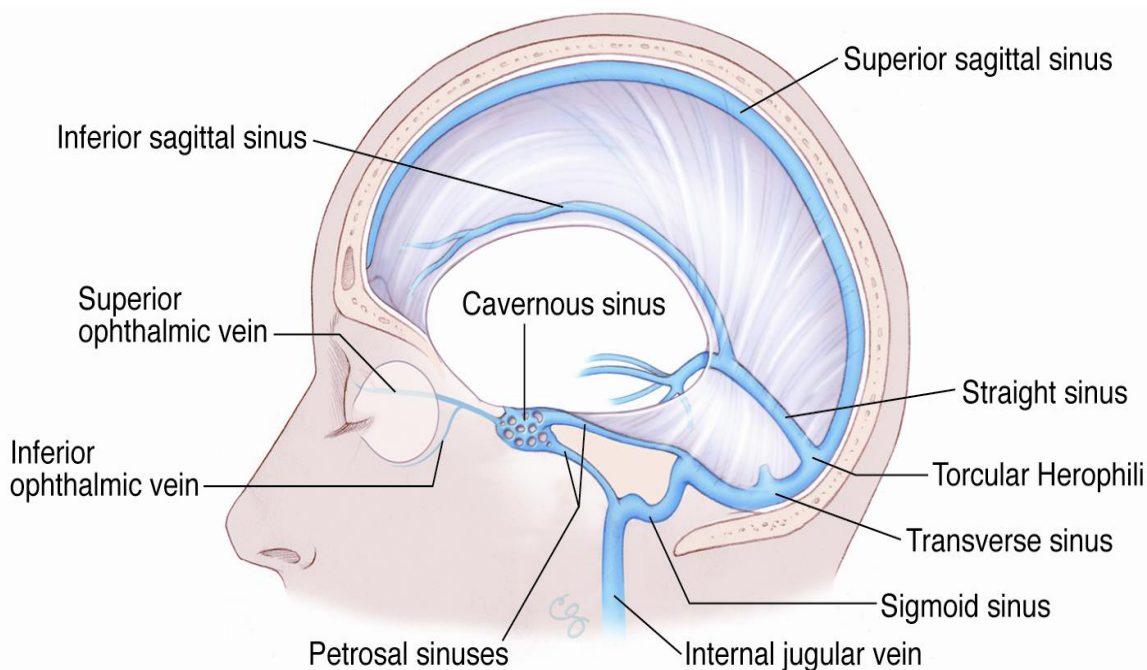


Figure 2: Torcular Herophili or confluence of sinuses (p.c.-American Academy of Ophthalmology)

CONCLUSION

The Adhipati Marma is situated in the Shira region, which is sadyapranahara. It is sandhi Marma, so there is a vast confusion and controversy about the sandhi Marma nature of Adhipati. From Sushruta's point of view, the sandhi is the joint of bone. So, the Adhipati Marma can be compared as lambda or posterior fontanelle. From Acharya Dalhan and Ghanekar's point of view, this Marma is regarded as Sira sandhi, so it may be considered lambda or Torcular Herophili or confluence of sinuses.

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