

An Analytical Review of Sadya Pranahara Marma with Special Reference to Human Anatomy and Clinical Significance

Dr. Manisha Dattatray Lokhande¹, Dr. Dhairyasheel Yadav², Dr. Seeam P. Daf³

^{1,2}Assistant Professor, Rachana Sharir Department, Pharate Patil Ayurved College, Tal: Shirur, Dist: Pune

³HOD and Professor, Rachana Sharir Department, Pharate Patil Ayurved College, Tal: Shirur, Dist: Pune

Abstract—Marma Sharira is one of the most significant branches of Ayurvedic anatomy and surgery. The term Marma denotes vital anatomical locations where structures such as Mamsa (muscle), Sira (vessels), Snayu (ligaments/tendons), Asthi (bones), and Sandhi (joints) unite and where Prana (vital life energy) resides. Among the 107 Marmas described in Ayurvedic classics, Sadya Pranahara Marmas are considered the most dangerous because injury to these points may lead to immediate death. Ancient Acharyas emphasized their surgical, prognostic, and therapeutic importance. Modern anatomical interpretation suggests that these Marmas correspond to regions containing vital neurovascular structures and essential organs such as the brain, heart, urinary bladder, and major vessels. This review critically analyzes the concept of Sadya Pranahara Marma with correlation to contemporary human anatomy and traumatology. The article integrates references from Sushruta Samhita, Ashtanga Hridaya, and modern anatomical understanding to establish the clinical significance of these vital points.

Index Terms—Marma, Sadya Pranahara Marma, Ayurveda, Human Anatomy, Vital Points, Traumatology.

I. INTRODUCTION

Ayurveda describes the human body through a unique anatomical and physiological perspective. One of the most remarkable contributions of Ayurveda to surgical anatomy is the concept of Marma. Acharya Sushruta, regarded as the father of surgery, elaborately explained Marma Sharira in Sushruta Samhita Sharira Sthana. Marma are the vital

points where injury can produce severe pain, deformity, dysfunction, or death.

According to classical Ayurvedic literature, there are 107 Marmas distributed throughout the body. They are classified according to anatomical structure, location, dimension, and prognosis after injury. Among these classifications, Sadya Pranahara Marma holds prime importance because trauma to these structures leads to immediate or very rapid death.

In modern medicine, many of these points correspond to highly vulnerable anatomical regions containing major arteries, veins, nerves, viscera, or central nervous system structures. Thus, the study of Sadya Pranahara Marma has significance in anatomy, surgery, emergency medicine, forensic science, sports medicine, and martial arts.

Recent reviews in Ayurvedic literature emphasize Marma as a sophisticated ancient understanding of vital anatomy and traumatology.

II. AIM AND OBJECTIVES

Aim

To critically analyze Sadya Pranahara Marma with reference to modern human anatomy.

Objectives

1. To study the classical description of Sadya Pranahara Marma.
2. To correlate Sadya Pranahara Marmas with modern anatomical structures.
3. To evaluate their clinical and surgical significance.

III. MATERIALS AND METHODS

This review article is based on classical Ayurvedic texts including:

- Sushruta Samhita
- Charaka Samhita
- Ashtanga Hridaya

Modern references from anatomy textbooks, peer-reviewed journals, and published review articles related to Marma anatomy and traumatology were also analyzed.

IV. CONCEPT OF MARMA IN AYURVEDA

तानि मर्माणि पञ्चात्मकानि भवन्ति; तद्यथा
मांसमर्माणि, सिरामर्माणि, स्नायुमर्माणि, अस्थिमर्माणि, सन्धिमर्माणि चेति |
न खलु मांससिरास्नायुस्थिसन्धिव्यतिरेकेणान्यानि मर्माणि भवन्ति, यस्मान्नोपलभ्यन्ते
||३||

(Su. Sha. 6/3)

Acharya Sushruta defined Marma as:

“Mamsa, Sira, Snayu, Asthi and Sandhi Sangama.”

It means the sites where muscles, vessels, ligaments, bones, and joints meet together and where life energy resides.

Marma are classified into five categories according to the effect of injury:

Type of Marma	Effect of Injury
Sadya Pranahara	Immediate death
Kalantara Pranahara	Delayed death
Vishalyaghna	Death after removal of foreign body
Vaikalyakara	Deformity
Rujakara	Pain

Among these, Sadya Pranahara Marmas are considered the most critical.

V. SADYA PRANAHARA MARMA

तत्र सद्यःप्राणहराण्याग्नेयानि, अग्निगुणेष्व्वाशु क्षीणेषु क्षपयन्ति (Su.Sha. 6 / 16)

केचिदाहुर्मासादीनां पञ्चानामपि समस्तानां विवृद्धानां^[३] समवायात् सद्यःप्राणहराणि (Su.Sha. 6 / 17)

According to Ayurveda, there are 19 Sadya Pranahara Marmas. Injury to these Marmas causes rapid loss of life due to severe hemorrhage,

neurological shock, respiratory arrest, or destruction of vital organs.

These Marmas are predominantly associated with:

- Brain
- Heart
- Urinary bladder
- Major blood vessels
- Respiratory structures

The classical explanation reflects advanced knowledge of traumatic pathology and emergency prognosis.

List of Important Sadya Pranahara Marmas

Marma	Location	Probable Modern Correlation
Shankha	Temporal region	Pterion and middle meningeal artery
Hridaya	Cardiac region	Heart and great vessels
Basti	Pelvic region	Urinary bladder
Nabhi	Umbilical region	Mesenteric vessels and solar plexus
Guda	Anal region	Rectum and pelvic neurovascular structures
Sringataka	Cranial cavity	Cavernous sinus region
Adhipati	Vertex of skull	Superior sagittal sinus region

VI. ANATOMICAL CORRELATION OF IMPORTANT SADYA PRANAHARA MARMAS

1. Shankha Marma

Shankha Marma is located in the temporal region of the skull and is considered a Sadya Pranahara Marma. Classical texts mention that trauma to this area can cause immediate death.

Modern anatomy correlates this region with the Pterion, where frontal, parietal, temporal, and sphenoid bones meet. Beneath this lies the anterior branch of the middle meningeal artery. Fracture at this site may produce extradural hemorrhage leading to rapid intracranial pressure increase and death.

The correlation strongly supports the Ayurvedic concept of fatal cranial trauma.

2. Hridaya Marma

Hridaya Marma is situated in the thoracic cavity and is considered the seat of consciousness, circulation, and life.

Modern anatomical correlation includes:

- Heart
- Coronary vessels
- Pericardium
- Cardiac plexus

Trauma to this region can produce:

- Cardiac tamponade
- Massive hemorrhage
- Arrhythmias
- Sudden cardiac arrest

Ayurveda recognized the heart as the center of vital functions long before modern cardiology evolved.

3. Basti Marma

Basti Marma is situated in the pelvic cavity and correlates with the urinary bladder.

Injury to Basti Marma may produce:

- Urinary leakage
- Septicemia
- Shock
- Fatal hemorrhage

Modern pelvic trauma confirms that rupture of the urinary bladder with associated vascular injury can become life-threatening. Contemporary Ayurvedic reviews also correlate Basti Marma with pelvic viscera and major neurovascular structures.

4. Nabhi Marma

Nabhi Marma is located at the umbilical region and is regarded as an important center of Prana.

Modern anatomy correlates Nabhi with:

- Mesenteric vessels
- Celiac plexus
- Portal circulation
- Small intestine attachment

Severe abdominal trauma around the umbilical region can cause:

- Mesenteric ischemia
- Hemorrhagic shock
- Peritonitis

Ayurvedic descriptions indicate awareness of the life-threatening nature of abdominal vascular injury.

5. Sringataka Marma

Sringataka Marma is located in the cranial cavity and associated with structures supplying the nose, ears, eyes, and tongue.

Modern anatomical interpretation includes:

- Cavernous sinus
- Internal carotid artery
- Cranial nerves

Infections or trauma in this region can rapidly spread intracranially and produce fatal neurological complications.

VII. PATHOPHYSIOLOGY OF MARMA INJURY

Ayurveda explains Marma injury through disturbance of Prana, Vata, and vital circulation. Trauma causes disruption of physiological balance leading to collapse of bodily functions.

From a modern perspective, fatality occurs due to:

- Hemorrhagic shock
- Neurogenic shock
- Respiratory failure
- Brain herniation
- Cardiac arrest
- Multiple organ failure

This demonstrates a remarkable parallel between Ayurvedic traumatology and modern emergency medicine.

VIII. CLINICAL SIGNIFICANCE

Surgical Importance

Acharya Sushruta advised surgeons to avoid Marma during surgical procedures. Ancient surgical dissection methods emphasized preservation of these vital points.

Modern surgery similarly emphasizes protection of:

- Neurovascular bundles
- Major organs
- Cranial sinuses
- Cardiac structures

Forensic Importance

Knowledge of Sadya Pranahara Marmas helps in understanding:

- Cause of sudden death
- Fatal injury patterns
- Mechanism of trauma

This has relevance in forensic medicine and medico-legal investigation.

Sports and Martial Arts

Traditional Indian martial systems like Kalaripayattu use Marma knowledge strategically. Trauma to specific points can incapacitate or kill an individual rapidly.

Modern combat medicine and sports injury science similarly recognize vulnerable anatomical zones.

Therapeutic Relevance

Marma therapy is used in Ayurveda for:

- Pain management
- Neuromuscular disorders
- Rehabilitation
- Energy balance

However, manipulation of vital Marmas requires expert knowledge because improper pressure may be harmful.

IX. DISCUSSION

The concept of Sadya Pranahara Marma demonstrates the profound anatomical understanding possessed by ancient Ayurvedic scholars. Although classical descriptions are based on Ayurvedic philosophy, modern anatomical analysis reveals significant scientific relevance.

Many Sadya Pranahara Marmas correspond to regions containing:

- Major arteries
- Cranial weak points
- Cardiac structures
- Pelvic organs
- Neural plexuses

Injury to these areas is still considered highly fatal in modern trauma care. The similarities between Ayurvedic and contemporary descriptions indicate that ancient physicians possessed extensive practical knowledge of surgical anatomy and emergency prognosis.

The classification of Marmas according to prognosis also reflects a sophisticated understanding of trauma severity. Ancient surgeons likely developed this knowledge through battlefield injuries, dissections, and surgical observations.

Recent reviews support the view that Marma science represents an advanced indigenous system of anatomical and clinical understanding.

X. CONCLUSION

Sadya Pranahara Marma represents one of the most advanced concepts of Ayurvedic surgical anatomy. These vital points are closely associated with essential neurovascular and visceral structures whose injury may cause immediate death. Correlation with modern anatomy demonstrates remarkable similarities between classical Ayurvedic descriptions and contemporary medical science.

The study of Sadya Pranahara Marma is important not only for Ayurvedic scholars but also for anatomists, surgeons, trauma specialists, forensic experts, and sports medicine professionals. Integrative exploration of Ayurvedic Marma science and modern anatomy can contribute significantly to future interdisciplinary research and clinical applications.

REFERENCES

- [1] Sushruta Samhitha. Sanskrit Commentary by Sri Dalhanacharya. Edited by Vaidya Jadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan; 2021. Reprint edition. Shareera Sthana, Chapter 6, Shloka 3.
- [2] Sushruta Samhitha. Sanskrit Commentary by Sri Dalhanacharya. Edited by Vaidya Jadavji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan; 2021. Reprint edition. Shareera Sthana, Chapter 6, Shloka 16,17.
- [3] Sushruta. Sushruta Samhita, Sharira Sthana 6/27–32. In: Kunte AM, Navare KR, editors. Nibandhasangraha Commentary by Dalhana. Varanasi: Chaukhambha Orientalia; 2020.
- [4] Vagbhata. Ashtanga Hridaya, Sharira Sthana 3/42–45. In: Gupta KA, editor. Varanasi: Chaukhambha Sanskrit Series, 2019.
- [5] Exploring Basti as Sadhyopranahara Marma through the Lens of Contemporary Anatomy, Arpitha S^{1*}, Nair VA², Prasanna S³DOI:10.21760/jaims.9.8.23, Arpitha S, Post Graduate Scholar, Dept of Rachana Shareera, SDM College of Ayurveda and Hospital, Hassan, Karnataka, India.

- [6] SADYAPRANAHARA MARMA: RELEVANCE IN TRAUMA SAFETY AND SURGICAL PRECISION IN PRESENT SCENARIO Dr. Sreevidya G.*, Dr. Rashmi Bharti Assistant Professor, MD Ayurvedic College and Hospital, Sikandra, Agra., World Journal of Pharmaceutical Research, Vol 14, Issue 23, 2025. | ISO 9001: 2015 Certified Journal | 61
- [7] Shankar G, Rao S, Iyer N. Marma science and modern anatomy: An integrative review. J Ayurveda Integr Med, 2022; 13(3): 254–61.
- [8] Nair P. Reinterpretation of Sadyapranahara Marma in trauma care. Ayurveda Res Pract, 2021; 8(2): 89–96.
- [9] TO STUDY THE SADYA PRANHAR MARMA WITH SPECIAL REFERENCE TO HRUDAY MARMA, October 2020, Journal of Bio Innovation 9(5(b)):34-38, Dr. Chandrakant S. Shinde, Dr. Rahul Banarase
- [10] AN OBSERVATIONAL ANALYSIS ON MARMA SHARIR (VITAL POINTS) AND ITS CLINICAL APPLICATION *Dr Mukesh Kumar¹, Dr Ritika Dixit² ¹Associate Professor, Department of Rachana Sharir, Gaur Brahman Ayurvedic College & Hospital, Brahmanwas, Rohtak, Haryana. International Journal of AYUSH; 2024: 13 (7); 64-79.
- [11] Sadyapranahara Marma Shareer with Respect to Traumatology Dr. Akanksha Rana¹ , Dr. Bipan Chander² , Dr. Sunil Kumar Yadav³ , Dr. Kalpesh Jajoria⁴ ¹,⁴PG Scholar, ²MO Ayush, ³Dean (Student’s Welfare) Associate Professor, ¹, ³, ⁴Department of Rachana Sharir, National institute of Ayurveda, deemed to be University (De-Novo), Jaipur, Rajasthan, India ²Department of Rachana Sharir, Rajasthan Government, India.
- [12] “The Conceptual Study of Sadyopranharatav of Kalantarpranhara Kshipra Marma” Dr. Jeeshan Khan¹ , Dr. Sachin Sharma² Dr. Ashish Nandal³ ¹P.G. Scholar, Rachana Sharira Department, SKGAC, SKAU, Kurukshetra, Haryana, India