Research Article

www.ijrap.net

(ISSN Online:2229–3566, ISSN Print:2277–4343)

AN ANATOMICAL STUDY OF VAKSHAPRADESHGATA MARMA THROUGH A CADAVERIC DISSECTION

Vilas Valvi [1]*, Gurunath Khanolkar [2], Kishorkumar Madavi [2]

[1] PG Scholar, Department of Rachana Sharir, R. A. Podar Medical (Ayu.) College Worli, Mumbai, India

[2] Associate Professor, Department of Rachana Sharir, R. A. Podar Medical (Ayu.) College Worli, Mumbai, India

Received on: 18/10/25 Accepted on: 28/11/25

***Corresponding author**

E-mail: vilasvalvi999@gmail.com

DOI: 10.7897/2277-4343.166215

ABSTRACT

In Ayurveda, Marma Sharir refers to the vital points of the body. These points hold great importance in both preventive and therapeutic aspects of Ayurvedic practice. According to the Ayurvedic Samhitas, there are a total of 107 Marma points. A Marma Sthana is a specific anatomical location where muscles (Mansa), veins (Sira), ligaments (Snayu), bones (Asthi), and joints (Sandhi) meet - the place where Prana (vital life energy) resides. Ayurvedic Acharyas have classified these Marma Sthanas based on their location, number, structural composition, and the effects of injury. Since Marma points are the dwelling places of Prana and vital energy, any injury to these sites can lead to immediate or delayed death, or cause severe complications. Therefore, knowledge of Marma is considered essential for physicians to prevent harm during surgical or therapeutic procedures. Sushruta states that "the knowledge of Marmas is half of the knowledge of surgery," emphasizing that a surgeon must understand their classifications, nature, size, and the possible consequences of injury to ensure safe practice, especially when working in areas containing Marma points. These vital points should always be protected from trauma. Although classical texts describe the Marma sites, their precise anatomical locations and structural details are not completely defined. Hence, this study aims to analyze the anatomical location, structure, and clinical significance of the Marma points.

Keywords: Ayurveda, vakshasthangata marma, vital points, cadaveric dissection

INTRODUCTION

Marma Sharir is a fundamental concept in Ayurveda that focuses on vital points in the human body where Prana or life force, is believed to reside. These Marma points are located at the intersections of structures such as bones, joints, muscles, vessels, and ligaments, and any injury to them may lead to serious complications or even death. Ayurveda is a rich treasure of knowledge developed and refined by various acharyas, and proper understanding of the body is essential for the correct application of this science. Within Ayurvedic anatomy, Marma is a very important and fascinating subject with wide utility in both surgery and medicine. Knowledge of Marma was historically used not only for treating various diseases but was also taught to soldiers as part of martial training; the traditional martial art (Kalari Payattu) is a notable example.

In the present era, surgery is one of the fastest - growing branches of medical science. However, surgical procedures still carry a significant risk of failure and complications, which has led to increasing interest in minimally invasive and non-invasive techniques such as endoscopy and robotic surgery. In this context, the knowledge of Marma becomes highly valuable, because Marmas are considered the seats of Prana, and any disease or trauma involving a Marma tends to result in more complex and potentially life threatening outcomes.[1-5]

Aims and Objectives

The aim of this study to identify and determine the location, anatomical structures and traumatic effects associated with Vakshasthangata Marma.

MATERIALS AND METHODS

A comprehensive review of Ayurvedic Samhitas, reference books, journals, and research articles related to the topic was carried out. The cadavers were obtained from Hinduhridaysamrat Balasaheb Thackeray Medical College and Dr. R. N. Cooper Municipal General Hospital, Mumbai, in accordance with the provisions of the Maharashtra Anatomy Act, 1949, and with prior approval from the Institutional Ethics Committee. Male cadavers were then dissected in the Department of Sharir Rachana, R. A. Podar Medical College, Worli, Mumbai. The dissection of the thoracic region was performed according to the guidelines given in Cunningham's Manual of Practical Anatomy (16th edition, Volume 2) and Human Anatomy by B. D. Chaurasia (8th edition, Volume 1). Photographs of the dissected thoracic region were taken for documentation, and the information obtained from Ayurvedic and modern anatomical literature was analyzed, compared, and correlated with the dissection findings to draw relevant conclusions.

Cadaveric Study

Acharya Sushruta has described the process and importance of dissection in detail. Before treating a disease or performing any surgical procedure, a physician must possess through theoretical as well as practical anatomical knowledge. The Ayurvedic classics describe the location, type, severity, and clinical features of marma injuries, but cadaveric study allows precise determination of the exact location of each marma and enables direct observation of the anatomical structures related to it.

OBSERVATION AND RESULTS

As per classical description:

Hrudaya Marma
Number - 01
Type - Sira marma, Sadya pranahara
Location - Heart is located in between the stanas (breast) in the chest cavity. It is located above the Amashaya dwar.[3]
Pramana - 4 Angula
Viddha Lakshan - Injury of Hridaya Marma causes immediate death. [3]
Mahabhoot pradhanya - Agni

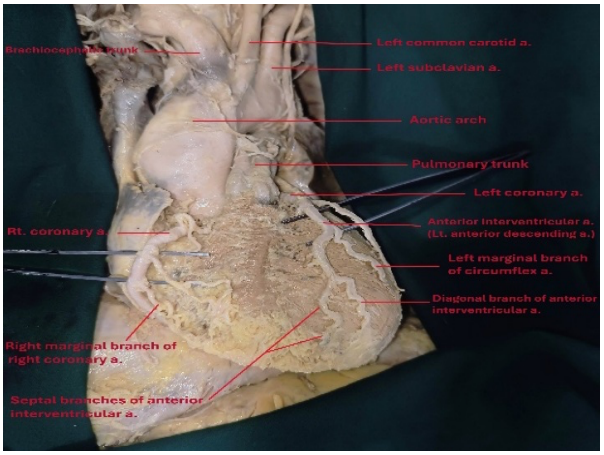

Figure 1: Heart with Rt. And Lt. coronary artery

On cadaveric dissection following structures are observed in this region
1. Heart and its chambers
2. Coronary artery and veins
3. Pericardium
4. Mediastinum
5. Pulmonary artery and veins[6-8]

Stanamool Marma
Number - 2
Type – Sira marma, Kalantar Pranahara Marma
Location - They are two in number and are located one on either side in the chest region. [3]
Pramana - 2 Angula
Viddha lakshan - Injury to Stanarohita Marma results in Lohita Purna Koshtata (accumulation of blood within the thoracic cavity or lungs), which causes Kasa (cough), Shwasa (dyspnea or severe breathlessness), and ultimately leads to gradual death. [3]
Mahabhoot pradhanya - Jal + Agni

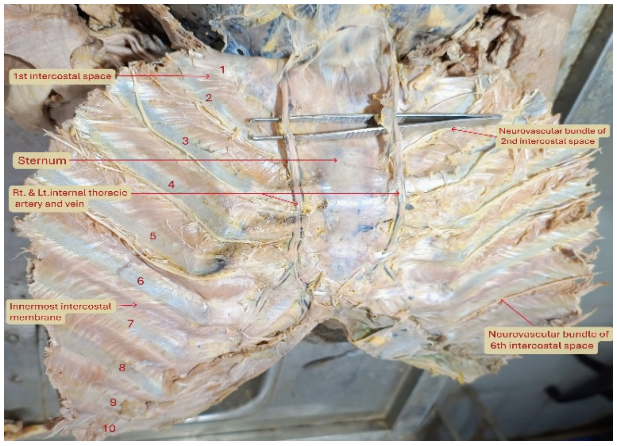

Figure 2: Intercostal muscles and intercostal arteries

On cadaveric dissection following structures observed in this region
1. Lungs and Pleurae
2. Intercostal muscles
3. Intercostal artery and veins
4. Phrenic nerves
5. Lymphatics around the lungs
6. Lymph gland around the lungs [6-8]

Stanarohita Marma
Number - 2
Type - Mamsa Marma, Kalantar Pranahara Marma
Location - Stanarohita marmas are located above the stana chuchukas i.e. nipples of the breasts. [3]
Pramana - ½ Angula
Viddha lakshan - Injury to the Sthanarohita Marma causes gradual death. When this marma is injured, it leads to lohita purna koshtata, meaning the thoracic cavity or lungs become filled with excessive blood, resulting in kasa (cough), shwasa (dyspnoea or severe breathlessness), and ultimately gradual death. [3]
Mahabhoot pradhanya - Jal + Agni

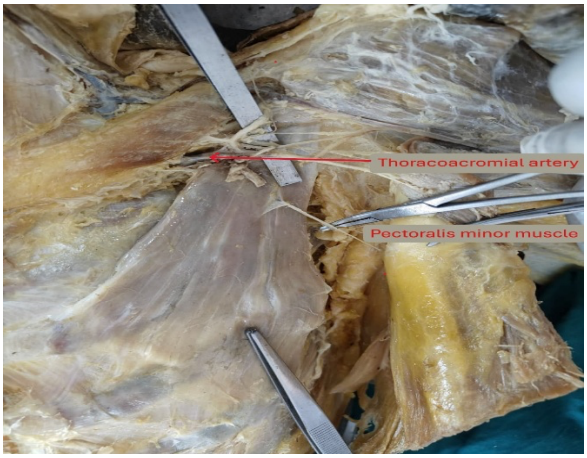

Figure 3: Pectoralis minor muscle

On cadaveric dissection following structures are observed in this region
1. Lungs and Pleurae
2. Intercostal muscles
3. Intercostal artery and veins
4. Phrenic nerves
5. Lymphatics around the lungs
6. Lymph gland around the lungs[7,8]

Apalap Marma
Number - 2
Type - Sira Marma, Kalantar Pranahara Marma
Location - Apalapa marmas are located below the Ansakuta and above the lateral flanks[3].
Pramana - ½ Angula
Viddha lakshan - The injury to the Apalapa Marma results in rakta - puyatva, a condition where the blood becomes infected and transforms into pus, causing septicemia and ultimately leading to the gradual death of the individual[3].
Mahabhoot pradhanya - Jal + Agni

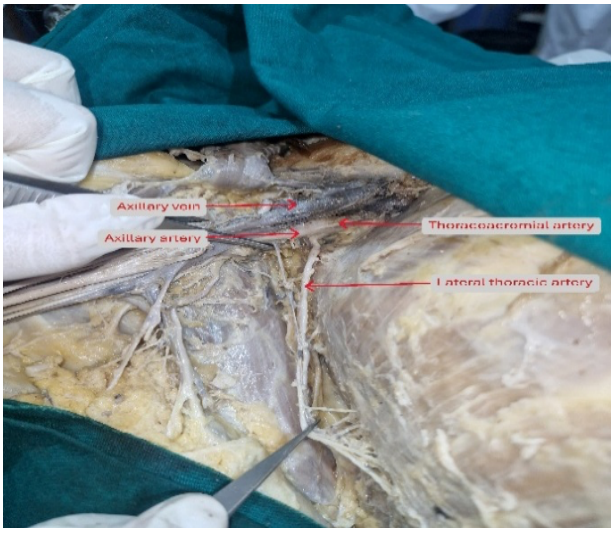

Figure 4: Contents of axilla

On cadaveric dissection following structures are observed in this region

1. Axilla and its contents
2. Brachial plexus of nerves
3. Axillary lymphatics
4. Lateral thoracic artery and vein
5. Lateral thoracic nerve[7,8]

Apastambha Marma

Number - 2

Type - Sira Marma, Kalantar Pranahara Marma

Location - Apastambha marmas are located in the madhya shareera, one on either side of the midline of the chest[3].

Pramana - ½ Angula

Viddha lakshan - Injury to the Apastamba Marma causes Vata Purna Koshtata, which refers to the chest or thoracic cavity being filled with excessive air (Vata). This condition leads to symptoms such as cough (Kasa) and dyspnoea or breathlessness (Shwasa), ultimately resulting in death. [3]

Mahabhoot pradhanya - Jal + Agni

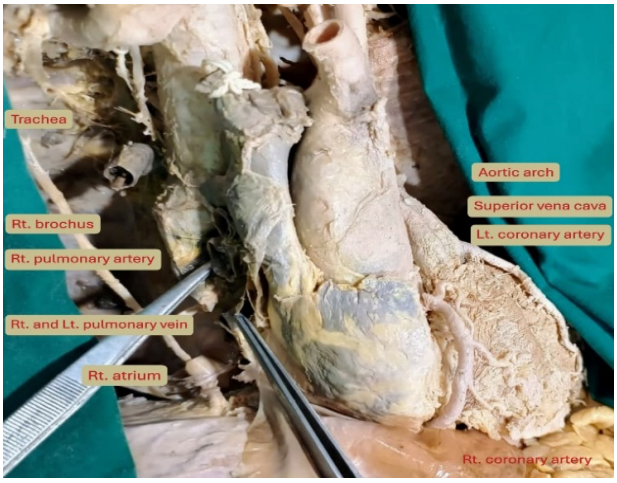

Figure 5: Rt. bronchus and heart

On cadaveric dissection following structures are observed in this region

1. Right Bronchus
2. Left Bronchus
3. Internal thoracic artery and vein
4. Vagus nerve
5. Pulmonary arteries and vein[7-9]

DISCUSSION

The understanding of Vaksha - Pradeshagata Marma necessitates precise knowledge of the vulnerable vessels (Avedhya Siras) located within this chest region, as classical Ayurvedic texts meticulously describe their positions along with the related anatomical structures.

Hridaya Marma, singular and measured as Chaturangula, likely corresponds to the coronary arteries rather than a single heart vessel, given the absence of references to two vulnerable vessels in the heart region across various Samhitas.

The Stanmool Marma, consisting of two points situated approximately two fingers below the nipples around the sixth intercostal space, is associated with the internal mammary arteries. Trauma to this area can cause delayed death due to accumulation of Kapha (phlegm) in the thorax, with internal mammary vessels playing a critical role in prognosis.

Stanarohita Marma, located about two fingers above the nipple near the second intercostal space, involves muscular tissue and is classified as a Kalantara Pranahara Marma. Injury here results in hemorrhage manifesting as cough and dyspnea, clinically corresponding to hemothorax.

Apalap Marma, situated laterally between the back and chest below the Ansakuta (flanks), is linked with the lateral thoracic and subscapular vessels, and its injury leads to death through the infection of blood and pus formation (septicemia).

Apastambha Marma, bilaterally present in the medial chest, involves the Vatavaha Nadi (Vata-carrying channel). Its damage causes thoracic accumulation of Vata (air), triggering respiratory failure symptoms such as dyspnea and cough. While ayurvedic samhitas differ, attributing fluid either to blood or air, anatomical correlations with bronchi and arteries offer insight into its pathological mechanism. This synthesis underscores the clinical relevance of Vaksha-Pradeshagata Marmas in understanding thoracic injuries and their potentially fatal consequences. In case of Vaksha - Pradeshagata Marma knowledge of Vaksha - Pradeshagata Avedhya Siras is necessary. The specific positions of Marma are described in the classics. So, on the basis of the position of Marmas related anatomical structures correlated with the Marmas of Vaksh - Pradesha.

CONCLUSION

The conclusion, based on conceptual and cadaveric studies, highlights the clinical importance of understanding Vaksha-Pradeshagata Marma in thoracic surgery and medicine. Classical Ayurvedic texts specify the positions and features of these Marmas, which correlate with vital anatomical structures. Hridaya Marma is likely the coronary vessels supplying the heart, not the heart muscle itself. Stanamoola Marma corresponds to the internal mammary arteries near their bifurcation in the sixth intercostal space, where injury can cause delayed death due to thoracic effusion. Stanarohita Marma, found in the second intercostal space over the pectoral region, is a muscle - type Marma whose trauma may cause hemorrhage and respiratory distress. Apalap Marma, located laterally in the thoracic region, relates to the lateral thoracic and subscapular vessels; injury leads to suppuration and delayed mortality. Apastambha Marma, situated medially in the thorax near major airways and bronchi, can cause respiratory failure from air or blood accumulation.

Classical scholars like Sushruta and Vagbhata viewed these Marma points not merely as anatomical structures but as clinically critical zones where trauma may be life - threatening. Their insights align closely with modern anatomical and physiological understanding, underscoring the relevance of Marma Sharira in current medical and surgical practice.

REFERENCES

1. Sushruta Samhita of Maharsi Sushruta, Vol. II, Sarira – Chikitsa - Kalpa Sthana, Edited with Susrutavimarsini Hindi commentary by Sharma AR, Foreword by Sharma PV, Chaukhamba Surbharati Prakashan; Varanasi; 2013, p. 87,88.
2. Sushruta Samhita of Maharsi Sushruta, Vol. II, Sarira – Chikitsa - Kalpa Sthana, Edited with Susrutavimarsini Hindi commentary by Sharma AR, Foreword by Sharma PV, Chaukhamba Surbharati Prakashan; Varanasi; 2013, p. 99.
3. Sushruta Samhita of Maharsi Sushruta, Vol. II, Sarira – Chikitsa - Kalpa Sthana, Edited with Susrutavimarsini Hindi commentary by Sharma AR, Foreword by Sharma PV, Chaukhamba Surbharati Prakashan; Varanasi; 2013, p. 95.
4. Sushruta, Sushruta Samhita: Sharirasthanam, Sanskrit text with Ayurvedarahasya dipika Hindi commentary, edited and translated by Ghanekar BG. Reprint edition 2023, New Delhi: Meharchand Lachhmandas Publications; p. 142, 143
5. Vagbhata's Ashtanga Hridaya, Translated by Srikantha Murthy KR. Vol. I: Sutra and Sarira Sthana, 8th edition, Chaukhamba Krishnadas Academy; Varanasi: 2011. ISBN: 978-81-218-0018-8, p. 424.
6. Chaurasia BD, Garg K, Mittal PS, Chandrupatla M. BD Chaurasia's Human Anatomy, Volume 1: Upper Limb and Thorax, 8th edi. New Delhi: CBS Publishers & Distributors; 2020, p. 51, 241,286.
7. Koshi R. Cunningham's Manual of Practical Anatomy: Volume 2, Thorax and Abdomen, 16th edi. Oxford: Oxford University Press; 2017, p. 23, 54, 81.
8. Netter FH. Atlas of Human Anatomy: Classic Regional Approach. 8th ed. Philadelphia (PA): Elsevier; 2023, p. 207, 210, 220, 239.
9. Standring S, Gray's Anatomy: The Anatomical Basis of Clinical Practice. Chapter - 56, 42nd edi. London: Elsevier; 2021. ISBN: 9780702077050, p. 1071.

Cite this article as:

Vilas Valvi, Gurunath Khanolkar and Kishorkumar Madavi. An Anatomical Study of Vakshapradeshgata Marma through a Cadaveric dissection. Int. J. Res. Ayurveda Pharm. 2025;16(6):62-65
DOI: http://dx.doi.org/10.7897/2277-4343.166215

Source of support: Nil, Conflict of interest: None Declared