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An Analytical Study on the Classification of *Kshipra Marma* as *Kalantara Pranahara Marma* in *Ayurvedic* Literature

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Abstract: ***In Ayurveda, Marma are important anatomical locations where life force (prana) is stored at the intersection of muscles, veins, ligaments, bones, and joints. These issues are delicate and have an impact on both health and illness. Since Marma injuries can have major repercussions, they are essential for Ayurvedic diagnosis, treatment, and surgery. The depression between the thumb and index finger of the hand and the foot is home to Kshipra Marma, a crucial Snayu Marma. It is among the 107 Marmas that Ayurveda describes. When Kshipra is injured, it might have serious systemic implications, which is why Kalantara Pranahara Marma. Because it plays a part in nerve and vascular function, it is essential. It affects circulation and motor control. In Ayurveda, injury is crucial for both diagnosis and emergency management since it can disrupt systemic systems and prolong death. Pranahara Kalantara Marmas are important body locations that, if damaged, eventually cause death rather than instantaneous death. " Pranahara " means "life-threatening," and "Kalantara" means "after some time." In Ayurvedic medicine, prompt diagnosis and treatment are essential since these Marmas gradually impair key processes. Therefore, the primary goal is to determine why Kshipra Marma is regarded as Kalantara Pranahara Marma.***
Keywords: Kshipra Marma, Kalantara Pranahara Marma, Ayurveda , Marma Chikitsa, Snayu Marma , Marma injury.

I. INTRODUCTION

The idea of *Marma* comes from ancient *Ayurvedic* texts, mainly the *Sushruta Samhita*. *Marma* points are vital spots in the body where structures like muscles, blood vessels, ligaments, bones, and joints meet, serving as centers of *prana*, or life force.[1] These 107 points are very sensitive. Any injury to them can cause pain, dysfunction, or even death. Knowledge of *Marma* is important in surgery, diagnosis, and treatment. It plays a key role in martial arts and therapeutic methods like *Marma Chikitsa*. This field stresses the need to preserve and protect these vital energy points.

Marma points are classified in *Ayurveda* based on their location, structure, and the effects of injuries.[2] By location, they are grouped into five regions: Shira (head and neck) – 37, *Urah* (chest) – 9, *Prishtha* (back) – 14, *Udara* (abdomen) – 3, and *Shakha* (limbs) – 44. Structurally, they are identified as *Mamsa* (muscle), *Sira* (vessel), *Snayu* (ligament/tendon), *Asthi* (bone), and *Sandhi* (joint). Based on the effects of injuries, they fall into five categories: *Sadya Pranahara* (instant death), *Kalantara Pranahara* (delayed death), *Vishalyaghna* (death after removing a foreign body), *Vaikalyakara* (causing deformity), and *Rujakara* (causing pain). This classification shows their clinical importance.

Kalantara Pranahara Marma points are a specific group in *Ayurveda* that can lead to death after a delay, usually within 1 to 30 days following an injury. The term "*Kalantara*" means "after some time," and " *Pranahara* " means "life-threatening." Unlike *Sadya Pranahara Marma*, which can cause immediate death, these points lead to a gradual decline in vital functions due to internal injury, bleeding, or systemic shock. According to *Sushruta Samhita*, there are 33 *Kalantara Pranahara Marma* points, including *Kshipra Marma*. Recognizing these points is essential for emergency care, surgical safety, and trauma management in *Ayurvedic* and integrative medicine.

The aim of this research article is to investigate the reasoning behind classifying *Kshipra Marma* as a *Kalantara Pranahara Marma* in classical *Ayurvedic* texts. Although *Kshipra Marma* is small and located peripherally, injuring it can have fatal results over time, suggesting its deeper physiological and energetic significance. This research seeks to connect traditional *Ayurvedic* ideas with modern anatomical knowledge. Highlighting the clinical, surgical, and therapeutic relevance of *Kshipra Marma* can improve emergency response, trauma care, and increase awareness of vital points in holistic health.

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II. MATERIAL AND METHODS

A. *Kśhipra Marma* in Classical *Ayurveda*

1) By *Acharya Sushruta*[3]

• *Kshipra Marma* is listed among the 107 *Marma* points.
• Number: 4 in total (2 in hands and 2 in feet).
• Location: Located between the thumb and index finger in the palm (upper limb), and similarly between the great toe and second toe in the sole (lower limb).
• Structure (*Rachana*): It falls under *Sira Marma* (related to blood vessels), though some view it as a *Sira-Snayu Marma* because of the tendons and ligaments present.
• Effect of injury: It is classified as *Kalantara Pranahara Marma*, meaning an injury leads to death after some time, rather than instantly.
• Size: Comparable to the size of a wheat grain.
Sushruta notes that injuring this *Marma* causes painful, progressive systemic issues, potentially leading to vascular and neural complications that can ultimately be fatal.

2) By *Acharya Vaghbata*[4]

Vagbhata follows *Sushruta* 's classification and numbering.
• *Kshipra Marma* is clearly identified among the *Kalantara Pranahara* types.
• He highlights the clinical importance of protecting this area during medical procedures or injuries.
Vagbhata emphasizes the significance of *Kshipra Marma* regarding vital energy flow and circulation, stressing its role in overall vitality and *prana.*

3) By *Acharya Charaka*

The *Charaka Samhita* does not explicitly list all 107 *Marma* points like *Sushruta.* However, it discusses concepts related to *Marma*, such as vital points and trauma outcomes, in contexts like *Shalya Tantra* and *Vata* -related diseases.
• *Charaka* refers to vital spots and sensitive areas in different contexts but does not directly mention *Kshipra Marma*.
• His approach focuses more on functionality and systems compared to *Sushruta* 's structural details.

4) Classical Commentaries

Dalhana (on *Sushruta Samhita*)[5]
• Clarifies the location of *Kshipra Marma*, interpreting it as situated in the web between the thumb and index finger (or great toe and second toe).
• Notes that *Sira* (blood vessels) and *Snayu* (ligaments) are closely involved.
• Injury results in *vyatha* (severe pain), *shotha* (swelling), *raktasrav*a (bleeding), and ultimately disrupts vital functions.
Arunadatta and *Hemadri* (on *Ashtanga Hridaya*)[6]
• Support the idea that *Kshipra Marma* is highly sensitive and plays a role in nerve conduction and circulation.
• Stress the need for caution during surgeries involving extremities.

B. *Modern Anatomical Correlation of Kshipra Marma:*

Upper Limb (*Kshipra Marma*)
Location: Found in the joint region between the thumb and index finger (for upper limb) and best felt when the hand is open, approximately 1 cm in size.[7]

C. *Modern Equivalent Structures:*

Ayurvedic Term	Modern Structure
Sira (Vein)	Superficial Palmar Venous Arch, branches of Cephalic Vein
Arterial Supply	Superficial Palmar Arch (from Ulnar artery), branches of Radial Artery
Nerve Supply	Digital branches of Median Nerve and Radial Nerve

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Ayurvedic Term	Modern Structure
Muscle/Tendon Involvement	Tendons of Flexor Pollicis Longus, Lumbricals, and First Dorsal Interosseous Muscle

Lower Limb (Foot) Kshipra *Marma*
Location: In the web space between the big toe and second toe (first interdigital space).

D. Modern Equivalent Structures

Ayurvedic Term	Modern Structure
Sira (Vein)	Dorsal Venous Arch, branches of Great Saphenous Vein
Arterial Supply	First Dorsal Metatarsal Artery (from Dorsalis Pedis Artery)
Nerve Supply	Deep Peroneal Nerve (provides cutaneous innervation between 1st and 2nd toes)
Muscle/Tendon Involvement	Tendons of Extensor Hallucis Longus, Extensor Digitorum Longus

Table no :1 Modern Equivalent Structures

Now, let's focus on why *Kshipra Marma* is classified as *Kalantara Pranahara Marma*. Several interpretations support the view of *Kshipra Marma* as a *Kalantara Pranahara Marma*.

E. According to Acharya Sushruta, injury to Kshipra Marma creates the following symptoms

1) Raktasrava (Profuse Bleeding):
Due to the involvement of major veins and arteries in that area.

2) Prana Kshaya (Vital Energy Loss):
As "*Sira*" are pathways for *prana vayu* and *rakta*, damage disrupts the flow of life's force.

3) Shotha (Swelling) and *Ruja* (Pain):
Caused by inflammation and trauma to nerves and blood vessels.

4) Kalantara Mrityu (Delayed Death):
Progressive complications such as infections, systemic failure, or sepsis may eventually lead to death.

F. Injury to Kshipra Marma can result in the following conditions

1) Affected Blood/Nerve Supply
• *Kshipra* is a *Sira Marma*; injury here may lead to extensive bleeding, damage to major veins or arteries, and loss of vital flow (rakta and *prana*).[8]
• While bleeding might not cause immediate death, it can result in slow hemodynamic collapse, sepsis, or tetanus — hence the term delayed death (*Kalantara*).[9,10]

2) Pranic Flow Disruption
• *Ayurveda* links *prana vayu* closely with *Sira Marma*. Injury can cause gradual pranic imbalance, negatively impacting vital functions.
• Since *Kshipra* is situated in nerve-rich, reflexive areas, damage to it can disturb the entire body's energy network (especially in the upper and lower limbs), leading to systemic degeneration.

3) High Risk of Infection
• From a modern perspective, wounds in hands/feet (where *Kshipra* occurs) are susceptible to infections such as tetanus, gangrene, or septicemia — conditions that can lead to death over days or weeks.
• This aligns with the idea of *Kalantara Pranahara* , where effects manifest gradually, not immediately.

III. RESULT

Kshipra Marma aligns anatomically with neurovascular bundles in the first web space of the hand and foot. This area, where arteries, veins, and nerves come together in superficial and deep planes, is vulnerable to trauma and infection, confirming the *Ayurvedic* perspective on delayed fatal complications (*Kalantara Pranahara*) from *Marma* injury.

Anatomical correlation of *Kshipra Marma* can be summarized as:

• In Upper Limb – Dorsal metacarpal artery, Flexor Pollicis Brevis, Oblique and transverse head of adductor pollicis, branches of the median nerve, Superficial and deep palmar arch supplying blood to the fingers. [11]

• In Lower Limb – Dorsalis Pedis artery, Adductor Hallucis Brevis, lumbrical muscles, posterior tibial nerve, branch of deep peroneal nerve extending to the big toe, plantar arch, and medial plantar artery, meta tarso-phalangeal joint.[12]

Outcomes of Injury to *Kshipra Marma*

Kshipra Marma is classified as a *Sira Marma* (vascular vital point) and is *Kalantara Pranahara* , indicating that an injury causes death over time, rather than immediately

.

System Affected	*Ayurvedic* Outcome	Modern Equivalent
Blood Vessels	*Raktasrava, Prana Kshaya*	Hemorrhage, Hypovolemia
Nerves	*Shoola, Vyatha*	Nerve damage, Paresthesia, Motor loss
Systemic	*Kalantara Mrityu*	Tetanus, Sepsis, Delayed death
Function	*Karma Hani*	Loss of dexterity or movement

According to author's perspective, Injury to the *Marma* may create an entry point (both physically and energetically) for infection or toxin spread.So, it can be easily be corelated with tetanus infection mostly. However, there is no direct reference linking tetanus and *Kshipra Marma* injury in classical *Ayurvedic* texts. However, conceptual similarities exist:

• A *Kshipra Marma* injury can serve as a gateway for tetanus infection.

• Both *Ayurvedic* and modern systems recognize the seriousness of neurovascular injury at this site.

• The clinical overlap (limb stiffness, spasms, dysfunction) suggests both symbolic and practical connections.

Correlation Between Tetanus and *Kshipra Marma* Injury

Although *Ayurveda* and modern medicine use different frameworks, intersections can be identified:

Aspect	*Kshipra Marma Aaghat (Ayurveda)*	Tetanus Infection (Modern Medicine)
Location	Hands/feet, including injury-prone areas	Commonly enters through hands/feet wounds
Injury Consequence	Disruption of nerve/vascular function, spasm	Neurotoxin-induced muscle rigidity/spasm
Symptoms	Stiffness, neurological symptoms in limb	Trismus (lockjaw), limb rigidity, spasms
Mechanism	Energy channel (*prana*) disruption in *marma*	Neurotoxin blocking inhibitory neurotransmitters
Outcome	Disability or functional loss if severe	Severe systemic impact, fatal if untreated

IV. DISCUSSION

This study aimed to explore the rationale for classifying *Kshipra Marma* as a *Kalantara Pranahara Marma* within the traditional *Ayurvedic* framework. The findings reveal a complex perspective based on both classical texts and modern anatomical insights. *Ayurvedic* texts like *Sushruta Samhita* and *Ashtanga Hridaya* have clearly labeled *Kshipra* as an important *Marma* point, positioned in the space between the thumb and index finger (hand) and the great toe and second toe (foot). The term "*Kalantara Pranahara* " implies that injury to such a *Marma* causes death not right away but after a period. This classification is vital, showing the significant but staggered physiological impact of the injury. From an anatomical viewpoint, the interdigital region is full of essential neurovascular structures. In the hand, this includes branches of the radial artery, the superficial palmar arch, and digital nerves from the median nerve. In the foot, it includes the dorsalis pedis artery and the deep peroneal nerve. Trauma to these regions can lead to

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notable bleeding, lack of blood flow, and disrupted nerve function. Infections or blood vessel blockages can also cause systemic issues, backing the classical notion of delayed fatal outcomes.

Moreover, the study highlights that *Sira Marma* (vascular primarily) like *Kshipra* face substantial risks, such as severe bleeding, sepsis, tetanus, or gangrene if not treated quickly. These complications can develop gradually, leading to long-term illness or death, validating the *Kalantara Pranahara* concept from both *Ayurvedic* and contemporary medical views. Thus, the alignment of *Ayurvedic* theory with anatomical and pathological reasoning supports the traditional classification of *Kshipra Marma* as *Kalantara Pranahara* .

- If this *Marma* is injured, death can occur due to convulsions, as *akshep* is the primary symptom of *Kshipra Marma* injury. Convulsions can arise from conditions like severe bleeding or tetanus infection. While instant death can occur with significant bleeding, tetanus may take a few days.
- These findings support the *Ayurvedic* classification of *Kshipra* as a *Kalantara Pranahara Marma*, where delayed but fatal outcomes may arise from secondary issues like sepsis, gangrene, tetanus or systemic shock following injury.

V. CONCLUSION

The conclusion about *Kshipra Marma* emphasizes its crucial structural and functional role in *Ayurvedic* literature, especially as a *Kalantara Pranahara Marma*. This classification highlights its sensitivity and the severe effects of trauma to this *Marma*, which can lead to convulsions and even death. Understanding *Kshipra Marma* is vital for both clinical practice and treatment in *Ayurveda*.

Structural Importance

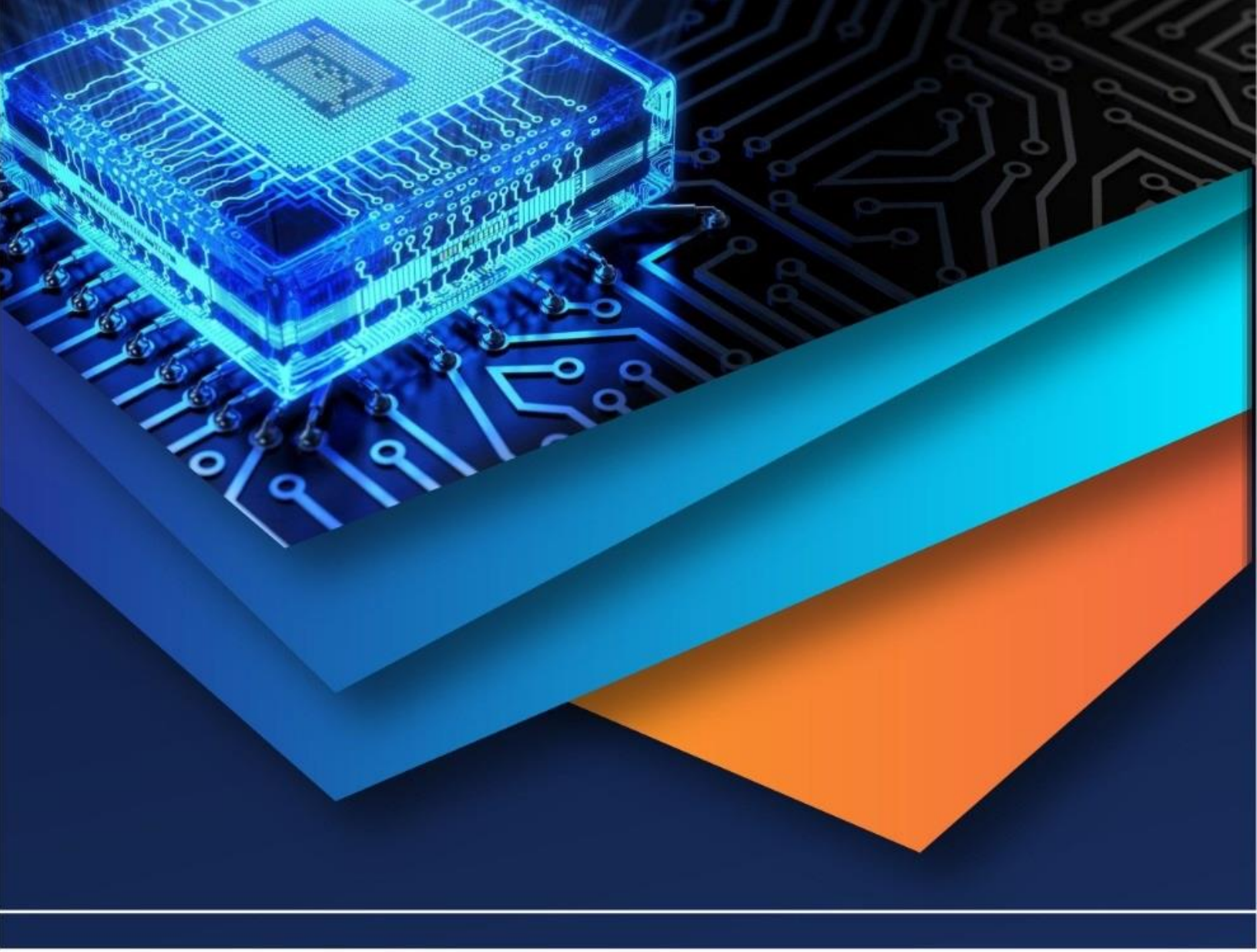
1) *Kshipra Marma* is positioned between the great toe and the second toe, measuring half *Angula* and classified as a *Snayu Marma* due to its connective tissue nature. [13] Functional Importance
2) As a *Kalantara Pranahara Marma*, injury to *Kshipra* can result in life-threatening situations, emphasizing its role as a crucial point in the body. [14]
3) Stimulating *Kshipra Marma* has been shown to reduce pain and improve bodily functions, highlighting its therapeutic potential. [15] The assertion that injury to *Kshipra Marma* leads to delayed but fatal complications, affirming it as *Kalantara Pranahara Marma*, is supported by the understanding of *Marma* points in *Ayurvedic* literature. *Kshipra Marma*, found between the great toe and the second toe, is classified as a *Snayu Marma* and known for its significant impact when injured. The delayed fatality associated with *Kshipra Marma* injuries arises from the convulsions and severe physiological disturbances following trauma to this critical point, aligning with its classification as *Kalantara Pranahara Marma*, which indicates delayed death due to injury. This opens up opportunities for integrated approaches in trauma treatment, early intervention, and preventive measures based on *Marma* science.

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