

A COMPREHENSIVE STUDY OF MARMA SCIENCE FOCUSED ON THE
KURCHASHIRA MARMA IN THE UPPER EXTREMITY

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ABSTRACT

In Ayurveda, *Marma* points are crucial vital spots, with a total of 107 identified. These can be categorized into five types: *Mamsa* (muscle), *Sira* (vein), *Snayu* (ligament), *Asthi* (bone), and *Sandhi* (joint) *Marma*. Damage to these *Marma* points can lead to deformity, death, or paralysis. *Acharya Sushruta* and *Acharya Vaghabhatta* have described these points in detail in their texts. During surgical procedures, it is essential to accurately locate and measure the *Marma* point before making any incisions to avoid harming these sensitive areas. The field of *Shalya Tantra* encompasses much of the knowledge related to *Marma* points. *Marmas* are considered the seats of *Vayu* (air), *Soma* (moon) and *Tejas* (fire), in relation to the three fundamental qualities: *Sattva* (goodness), *Rajas* (passion) and *Tamas* (ignorance). Among the 107 *Marma* points, the *Kurchashira Marma* is located in each limb. In the upper extremity, it is found in located below *Manibandha Marma* on both side of hand. The aim of our study is to examine the anatomical structures and vitality associated with the *Kurchashira Marma* site. This *Marma* measures 1 *Anguli* in *Pramana* (diameter) and is classified as a *Rujakara Marma* due to its potential for causing pain and inflammatory condition. Positioned at below *Manibandha Marma* on both side of hand. *Kurchashira Marma* is categorized under *Snayu Marma* and *Urdhvaschakragat Marma* classification. *Ruja* (pain) and *Shopha* (swelling or edema) is a condition that results from an injury to the *Kurchashira Marma*. This injury can lead to complications such as severe pain and swelling or edema. The *Kurchashira Marma* regulates *Alochaka Pitta* (the visual power of the eyes), *Agni* (digestive power), and the stomach. It also governs *Pachaka Pitta*, *Kledaka Kapha* and *Samana Vayu*, which are related to digestion and influence the head, mind and nervous systems, as well as calming *Vata*. The thumb is considered a manifestation of *Agni*, representing not only digestive power but also *Prana* (vital life force) and the soul. This makes it a crucial point for managing various forms of bodily fire. The vitality of the *Kurchashira Marma* involves the balance of *Vata*, *Pitta* and *Kapha Dosha*, and *Mahabhuta* (elements) of *Vayu* and *Agni*. Key anatomical structures in the *Kurchashira Marma* are include the apex of the palmar aponeurosis, median nerve, flexor digitorum superficialis and profundus, superficial and deep palmar arch, palmar and dorsal intercarpal ligaments and the tendons of the extensor digitorum and extensor indicis muscles. Among these, the median nerve and the apex of the palmar aponeurosis are particularly significant.

KEYWORDS: *Kurchashira, Marma, Rujakara Marma, Snayu Marma.*

INTRODUCTION

In Ayurveda, *Marma* points are crucial vital spots, with a total of 107 identified. These can be categorized into five types: *Mamsa* (muscle), *Sira* (vein), *Snayu* (ligament), *Asthi* (bone), and *Sandhi* (joint) *Marma*.^[1] Damage to these *Marma* points can lead to deformity, death, or paralysis. *Acharya Sushruta* and *Acharya Vaghabhatta* have described these points in detail in their texts. During surgical procedures, it is essential to accurately locate and measure the *Marma* point before making any incisions to avoid harming these sensitive areas. The field of *Shalya Tantra* encompasses much of the knowledge related to *Marma* points. The concept of *Marmas* is first referenced in the *Rigveda*. *Marmas* are

considered the seats of *Vayu* (air), *Soma* (moon) and *Tejas* (fire), in relation to the three fundamental qualities: *Sattva* (goodness), *Rajas* (passion) and *Tamas* (ignorance).^[2] Among the 107 *Marma* points, the *Kurchashira Marma* is located in each limb. In the upper extremity, it is found in located below *Manibandha Marma* on both side of hand.^[3] This *Marma* measures 1 *Anguli* in *Pramana* (diameter) and is classified as a *Rujakara Marma* due to its potential for causing pain and inflammatory condition. *Marmas* are classified into five categories based on their effect when injured: *Sadyopranahara* (instantaneous death), *Kalantarapranahara* (delayed death), *Vishalyagha* (causing death by causing a wound), *Vaikalyakara*

(causing deformity) and *Rujakara Marma* (causing pain).^[4] *Marmas* are further categorized regionally into three types; *Shakhagata* (located in the limbs), *Koshtagata* (located in the trunk) and *Urdhvajatrugata* (located above the neck). There are 44 *Shakhagata Marmas*, including the *Kurchashira Marma*. An injury to a *Marma* classified as *Sadyopranahara* is associated with symptoms such as deformity of the sense organ (*Indriyartheshva*), loss of consciousness (*Asamprapti*), disturbances in mental and cognitive function (*Manabuddhi Viparyay*) and pain (*Ruja*).^[5] An injury to a *Marma* classified as *Kalantarapranahara* is marked by symptoms like loss of bodily fluid and tissues (*Dhatu- Kshay*), death (*Nasha*). An injury to a *Marma* classified as *Rujakara* is characterized by various types of pain (*Ruja*), which may lead to deformity.^[6]

Among the five types of *Marmas*, the *Kurchashira Marma* falls under the *Rujakara* category, where an injury results in severe pain (*Ruja*) and inflammation of the upper limb (*Shopha*). The *Kurchashira Marma*, based on its prognosis, is classified as a *Rujakara Marma*. According to its location or site or region, it is categorized as a *Bahu Marma*, with a total of 22 *Bahu marma*. In terms of its constitution, it is classified as a *Snayu Marma*. There are four *Kurchashira Marmas* in total, with one present in each limb.

Trauma or injury from accidents or blows, repetitive stress due to activities and occupations, infections, improper healing of inadequately managed or untreated injuries, inflammatory disorders and chronic diseases affecting connective tissues or blood supply to the upper limb can all lead to symptoms such as pain, swelling and functional impairment in the upper limb. Understanding the science of vital points, particularly the *Marma* points, is crucial for treatment. This article focuses on *Kurchashira Marma*, a specific *Marma* point. Injury to the *Kurchashira Marma* can result in inflammatory conditions (*Shopha*) and severe pain (*Ruja*). This article integrates both contemporary and historical scientific knowledge to explore the anatomy adjacent to the *Kurchashira Marma* and its significance in terms of vitality.

MATERIAL AND METHODOLOGY

- Reviewing existing literature on *Marmas* from *Ayurvedic samhitas* such as the *Sushruta Samhita*

Varieties of Marma

Table No. 1: (Varieties of *kurchashira marma*).

Sr. No.	Types of varieties	According to Acharya Sushruta	According to Acharya Astang Hridaya
1	According to <i>Shadangabheda</i> (Sites/Location/Region)	<i>Urdhvasakhagata Marma</i> ^[9]	<i>Urdhvasakhagata Marma</i>
2	According to <i>Rachanabheda</i> (Prognostic/Structural)	<i>Snayu Marma</i> ^[10]	<i>Snayu Marma</i>
3	According to <i>Parinambheda</i> (Consequences of trauma/ Effect of injury)	<i>Rujakara Marma</i> ^[11]	<i>Rujakara Marma</i>
4	According to <i>Pramanabheda</i> (Measurement)	1 <i>Anguli</i> ^[12]	1 <i>Anguli</i>
5	Number of <i>Marmabheda</i>	Two	Two

and *Ashtang Hridayam*, alongside Modern anatomy resources like Cunningham's manual of practical anatomy, B.D.chaurasia, Gray's anatomy, Netter's atlas of human anatomy, Clinically oriented anatomy, Essential clinical anatomy, Human anatomy and physiology, The anatomy coloring book, Tortora's principles of anatomy and others.

- Specifically, gathering information about the *Kurchashira Marma* from ancient texts like the *Sushruta Samhita* and *Ashtang Hridayam*.
- Examining journals, literature, web sites, studies paper, research papers and articles from various periodicals and newspapers, as well as relevant online information. This process will involve observing, compiling, and analyzing data from these sources to understand the conceptual aspects.

Review

Concept of *kurchashira marma*

The word meaning of *Kurchashira* is the "Handle of the brush, head of *Kurcha*".^[7]

Number of *marma*: 2

Location

मणिबन्धसन्धेरधः उभयतः कूर्चशिरोनामः॥ (सु.शा.६/३१ - घाणेकर टिका)

The *Kurchashira Marma* is located below *Manibandha Marma* on both side of hand.

गुल्फ सन्धेरध कूर्चशिरः शोफ रुजाकरं॥ (अ.इ.शा.४/४)

गुल्फ सन्धेरध कूर्चशिरः तत्ररुजाशोफौ॥ (अ.सं.शा.७/३)

The *Kurchashira Marma* is located below *Manibandha Marma* on both side of hand. Its injury causes pain and swelling.^[8]

इदमपिस्नायुमर्म, एक अंगुलं वैकल्यकरं च॥ (डल्हन सु. शा. ६/२४)

Kurchashira Marma is *Snayu Marma* and *Vaiklyakara Marma*. And its dimension is 1 *angula*.

Marma abhighat lakshana**तत्र रुजाशोफौ ।। (सु.शा.६/३१-घाणेकर टिका)**

Injury to *Kurchashira Marma* causes *Ruja* (Severe pain) and *Shopha* (Swelling or edema).^[13]

Vitality of *kurchashira marma*^[14]

Dosha: Vata, Pitta, Kapha.

Mahabhuta: Agni+Vayu.

Controls: The *Kurchashira Marma* regulates *Alochaka Pitta* (the visual power of the eyes), *Agni* (Digestive power), and the stomach. It also governs *Pachaka Pitta*, *Kledaka Kapha* and *Samana Vayu*, which are related to digestion and influence the head, mind and nervous systems, as well as calming *Vata*. The thumb is considered a manifestation of *Agni*, representing not only digestive power but also *Prana* (Vital life force) and the soul. This makes it a crucial point for managing various forms of bodily fire.

Anatomical structures of *kurchashira marma*^[15,16]

- Skin
- Apex of palmar aponeurosis
- Median nerve
- Tendon of flexor digitorum superficialis
- Tendon of flexor digitorum profundus
- Superficial and deep palmar arch
- Palmar and dorsal intercarpal ligaments
- Tendon of extensor digitorum
- Tendon of extensor indicis muscle

Vital structures of *kurchashira marma*^[17,18]

- **Median nerve**

Function- The median nerve plays a crucial role in controlling the thumb movement, which is essential for the hand's gripping mechanism.

Course- The median nerve runs through the flexor retinaculum in the carpal tunnel and enters the palm. It then branches into muscular and cutaneous branches.

Branches- In the hand, the median nerve supplies:

- 1) Five muscles- The abductor pollicis brevis, the flexor pollicis brevis, the opponens pollicis, and the first and second lumbrical muscles.
- 2) The lateral side of the palm skin corresponding to the first 3.5 digits, including the nail beds.

- **Palmar aponeurosis apex**

The term "Palmar aponeurosis" refers to the deep fascia of the palm. It covers the superficial branch of the ulnar nerve, the long flexor tendons, the terminal portion of median nerve, and the superficial branch of the ulnar nerve.

The palmar aponeurosis has a triangular shape. Its proximal apex connects to the flexor retinaculum and attaches to the tendon of the palmaris longus muscle. The base of the aponeurosis faces distally. It consists of a

superficial and a deep layer, with the superficial layer attached to the dermis. The deep layer extends into four bands (or 'spurs') that correspond to the heads of the metacarpal bones of the central four digits.

The palmar aponeurosis stabilizes the skin on the palm, enhances grip, and provides protection to the underlying tendons, nerves and blood vessels.

Pathogenesis of the *kurchashira marma*^[19]

- According to *Acharya Sushruta*, an injury to the *Kurchashira Marma* results in intense pain and swelling.
- Dissection of this *Marma* site on a cadaver reveals several key structures: The skin, the apex of palmar aponeurosis, the median nerve, the tendons of the flexor digitorum superficialis and the flexor digitorum profundus, the superficial and deep palmar arches, the palmar and dorsal intercarpal ligaments, as well as the tendons of the extensor digitorum and extensor indicis muscles.
- Injury to the median nerve, muscle tendons, or the apex of the palmar aponeurosis causes severe pain and inflammation.
- Damage to the superficial and deep palmar arches leads to significant bleeding, while injury to the muscle tendons and ligaments results in considerable swelling and may impair the hand's flexion and abduction functions.

DISCUSSION

Brief points of *Kurchashira Marma* are;

- There are four *Kurchashira Marmas*, with one located in each limb.
- The *Kurchashira Marma* is located below *Manibandha Marma* on both side of hand.
- It is classified as a *Snayu Marma* (based on *Rachana/Vibhaga Bheda*).
- It is classified as a *Rujakara Marma* (based on *Parinam Bheda*).
- It is an *Urdhvasakhagat Marma* (based on *Desh/shadangatva Bheda*).
- The *Pramana* (measurement) of the *Kurchashira Marma* is one *Anguli*.
- The synonyms of *Kurchashira Marma* is the Handle of the brush, head of *Kurcha*.

The anatomical study of the *Kurchashira Marma* using modern text reveals the involvement of several structures: The tendon of flexor carpi radialis, abductor pollicis longus, extensor carpi radialis longus, extensor pollicis longus and brevis, radial and median nerve.

Vitality of vital structures

- Injury to the radial nerve: Causes wrist drop, weakness in arm extension, sensory loss, difficulty with grip.
- Injury to the median nerve: Results in weakness in hand function, ape hand deformity, sensory loss, loss of fine motor skills, inability to oppose the thumb.

- Injury to the tendon of flexor carpi radialis: Leads to reduced wrist flexion, weak wrist abduction, pain, swelling and compromised grip strength.
- Injury to the tendon of abductor pollicis longus: Causes reduced thumb abduction, weak grip, pain and weakness.
- Injury to the tendon of extensor carpi radialis longus: Results in reduced wrist extension, weak wrist abduction, pain, tenderness and compromised hand function.
- Injury to the tendon of extensor pollicis longus and brevis: Leads to difficulty extending the thumb, weakened thumb function, pain, tenderness and limited thumb movement.

CONCLUSION

The *Kurchashira Marma* is located below *Manibandha Marma* on both side of hand. It is classified as a *Snayu Marma* (based on *Rachana/Vibhaga Bheda*). It is classified as a *Rujakara Marma* (based on *Parinam Bheda*). It is an *Urdhvashakhagat Marma* (based on *Desh/shadangatva Bheda*). The *Pramana* (measurement) of the *Kurchashira Marma* is one *Anguli*. The synonyms of *Kurchashira Marma* is the Handle of the brush, head of *Kurcha*. Injury to *Kurchashira Marma* causes *Ruja* (severe pain) and *Shophya* (swelling or edema). The anatomical study of the *Kurchashira Marma* using modern text reveals the involvement of several structures: The tendon of flexor carpi radialis, Abductor pollicis longus, Extensor carpi radialis longus, Extensor pollicis longus and brevis, Radial and Median nerve. Anatomical structures of *Kurchashira Marma* are found during the dissection procedures like Skin, Apex of palmar aponeurosis, Median nerve, Tendon of flexor digitorum superficialis, Tendon of flexor digitorum profundus, Superficial and deep palmar arch, Palmar and dorsal intercarpal ligaments, Tendon of extensor digitorum and Tendon of extensor indicis muscle. Vital structures of *Kurchashira Marma* is Median nerve, Apex of palmar aponeurosis, Palmar arches. Vitality of *Kurchashira Marma* is *Vata*, *Pitta* and *Kapha dosha* and *Mahabhuta* is *Agni* and *Vayu*. It controls the *Kurchashira Marma* regulates *Alochaka Pitta* (the visual power of the eyes), *Agni* (digestive power), and the stomach. It also governs *Pachaka Pitta*, *Kledaka Kapha* and *Samana Vayu*, which are related to digestion and influence the head, mind and nervous systems, as well as calming *Vata*. The thumb is considered a manifestation of *Agni*, representing not only digestive power but also *Prana* (vital life force) and the soul. This makes it a crucial point for managing various forms of bodily fire.

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