

## A COMPREHENSIVE AND CONCEPTUAL STUDY ON REGIONAL ANATOMY OF URDHWA SHAAKHAA GATA RUJAKARA MARMA BY CADAVER DISSECTION AND THEIR APPLIED ANATOMY

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Article Received on 13/02/2025

Article Revised on 05/03/2025

Article Accepted on 25/03/2025

### ABSTRACT

Marmas are the vital spots in our body, where *Sira*, *Snayu*, *Asthi*, *Sandhi* & *Peshi* unite along with *Prana*. They are 107 in number and are classified into different types based on location, predominant *Marma* *Vasthu*, *Vikalpa* & *Pramana*. Based on *Vikalpa* the *Marma* are classified into 5 types. *Rujakara Marma* is one such type, which is 8 in number and predominant of *Agni* and *Vayu Mahabhuta*. *Rujakara Marmas* of *Urdhwa Shaakha* are *Manibandha* and *Kurchshira Marma*. Although the *Sthana* and the *Viddha Lakshana* of these *Marma* are explained in the *Samhita*, detail description of particular structures present in *Manibandha Marma* and *Kurchshira Marma* region are lacking in ancient text.

### INTRODUCTION

Ayurveda the science of life, which focuses on preserving a person's overall health, including their bodily, mental, and spiritual well-being. Despite the importance of every body part, there are certain locations known as *Marma*, which are crucial. *Marma* is the point where there is conglomeration of *Mamsa*, *Sira*, *Snayu*, *Asthi* and *Sandhi*. Any injury to these leads to death or deformities. *Rujakara Marma* are 8 in number among which 4 are located in the *Urdhwa shakhagata* which are *Manibandha* (2), and *Kurchshira* (2) and predominant of *Agni* and *Vayu Mahabhuta*. *Vayu* is responsible for *ruja*. The detailed description regarding *Marma* and *Rujakara Marma* of *Urdhwa shakhagata* is available in *Sushruta Samhita*. Therefore, a sincere effort is undertaken in this study to have a better understanding of *Rujakara Marma* and their *Viddha Lakshana*.

### AIMS AND OBJECTIVES

1. To study the literature on *Urdhwa Shaakhaagata Rujakara Marma* and their applied anatomy.
2. To identify the regional anatomy of *Urdhwa Shaakhaagata Rujakara Marma* by cadaver dissection.

### METHOD OF COLLECTION OF DATA

1. Literature related to *Urdhwa Shaakhaagata Rujakara Marma* were collected from various books, journals, presented papers and previous work done and it will be analyzed critically.

2. Anatomical structures explained in the region of *Urdhwa Shaakhaagata Rujakara Marma* were identified with the help of cadaver dissection.
3. *Viddha lakshanas* of *Urdhwa Shaakhaagata Rujakara Marma* were analyzed based on clinical anatomy.

### OBSERVATION

The dissection of *Urdhwa Shaakhaagata Rujakara Marma Sthanas* were carried out on 4 male cadavers in the dissection hall. The gross location of *Marma Sthanas* were identified, and procedures were carried out layer by layer, and structures were observed and studied.

### MARKING AND INCISION

#### MANIBANDHA MARMA

Palmar & dorsal aspects

In the palmar & dorsal aspect of wrist, in the region of *Manibandha Marma Sthana* circular marking was done on skin with a diameter of 2 Angula (3.2 cm). The region was dissected, layer by layer in order to see the structures which come under this area.

The skin in this region was reflected, and beneath it, superficial fascia with fat content was seen.

Carpel bone seen, flexor muscles seen, ulnar vessel, median nerve seen and flexor retinaculum.

Dorsally superficial vein, cephalic vein, dorsal venous arch and extensor muscles are seen.



### ***KURCHASHIRA MARMA***

Palmar & dorsal aspects

In the palmar aspect of hand just below the wrist, in the region of *Kurchashira Marma Sthana* circular marking was done on skin with a diameter of 1 Angula (1.6 cm) and the following observations were made:

After removing the skin and cleaning the superficial fascia of the palm, palmar cutaneous branches of ulnar

and median nerves along with subcutaneous palmaris brevis muscle was identified. Deep to them, the apex of triangular shaped palmar aponeurosis was identified. Dorsal aspect tendon of extensor digitorum, extensor indicis & dorsal carpal arch observed.

### **KURCHASHIRA MARMA**



**Fig. 16 Location of *Kurchashira Marma***

### **DISCUSSION**

Discussion on *manibandha Marma*

Locatio: It is located in the junction between *Hasta* and *Parbahu*, parmana of *Manibandha Marma* is said as 2 *Angula*.

Discussion on *Marma Vastu*

- *Mamsa Marma Vastu* - Extensor and flexor muscle tendon
- *Sira Marma Vastu* – Ulnar & Radial Artery, cephalic & basailic vein

- *Snayu Marma Vastu* – median nerve, ulnar nerve, palmar & dorsal radiocarpal ligament
- *Asthi Marma vastu* – lower end of radius & carpal bone
- *Sandhi Marma Vastu* – wrist joint

Discussion on *Marma viddha Lakshana*

- Colles' fracture
- Anterior dislocation of Lunate
- Fracture of Scaphoid
- Carpal Tunnel syndrome

Due to above said reasons; there will injury to the articular parts and the structures binding it, which results in pain in the *Manibandha Marma Sthana & Kuntatha*. Since pain is the main *Lakshana* and Sandhi is the important *Marma Vasthu* involved it is grouped under the category of *Sandhi & Rujakara Marma*

#### Discussion On *Kurchashira Marma*

##### Discussion on Location

It is located below the *Manibandha Sandhi* on *Ubhayatah*, which means it is located in both the palmar and dorsal aspects of the proximal part of the hand, immediately below the wrist joint. *Pramana* of *Kurchashira Marma* is 1 *Angula*.

##### Discussion on *Marma Vastu* :

- *Mamsa Marma Vasthu* – Palmaris brevis, Abductor pollicis brevis, tendons of Flexor digitorum superficialis, Flexor digitorum profundus, Extensor digitorum, Extensor indicis, Extensor carpi radialis longus & brevis
- *Sira Marma Vasthu*- superficial & deep palmar arches, anterior interosseous artery, dorsal venous arch
- *Snayu Marma Vasthu*- distal part of flexor retinaculum, apex of palmar aponeurosis, median nerve, ulnar nerve, radial nerve
- *Asthi Marma Vasthu*-Carpal bones

##### Discussion on *vidda lakshana*-

- Carpal Tunnel syndrome
- Ulnar bursa infection
- Synovial cyst can develop around the base of the third metacarpal bone on the Extensor carpi radialis berris tendon. If this cyst grows larger, it causes pain.

#### Due to above said reasons

There will be development of swelling & pain in the region of *Kurchashira Marma*. Since pain & swelling is the main *Lakshana* and Snayu is the important *Marma Vasthu* involved it is grouped under the category of *Snayu & Rujakara Marma*.

#### CONCLUSION

##### *Manibandha Marma*

Wrist joint and its ligaments are the important *Sandhi Marma Vasthu* situated in *Manibandha Marma Sthana*, injury to them results in *kuntata*.

##### *Kurchashira Marma*

Median nerve, palmar aponeurosis, are the important *Snayu Marma Vasthu* situated in *Kurchashira Marma Sthana*, injury to them and surrounding structures results in *Ruja & Shopha*.

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