

**OBSERVATIONAL STUDY ON KSHIPRA MARMA IN URDHVASHAKHA****Budruk Pramod Appasaheb<sup>1</sup>, Patil Amrutraj Ashok<sup>2</sup>**<sup>1</sup>Professor, Department of Rachana Sharir, ADAMC, Ashta, Maharashtra, India<sup>2</sup>Lecturer, Dhanwantari Ayurvedic Medical College & Research Centre, Nipani, Karnataka, India**ABSTRACT**

*Ayurveda* is one of the most reliable and complete ancient medical science which have proved for more than 5000 years. Even though the modern science is changing from time to time *ayurveda* has maintained its special place till death. Firm unions of *Mamsa*, *Sira*, *Snayu*, *Asthi*, *Sandhi* and *Dhamani* are called as *marma*; which naturally and specifically form the seats of life (Vital parts). Detail knowledge of *marma* is important from surgical point view; surgical procedures like *Agnikarma*, *Ksharkarma* and *Shastrakarma* are used as part of surgery. While conducting these surgical procedures, the knowledge of *marma sthana* is required. With proper knowledge of *marma sthana* we may perform the procedures without any complications. The incidence of trauma takes place in road accidents of two wheeler and four wheelers. Pedestrians also get injured. From the surgical point of view there is need to study through knowledge of *Kshipra marma*. The surgical procedures should be redesigned according to knowledge of / or detail study of *marma*. The *Kshipra marma* is one among the *Urdhva-shakhagata marma*. It is the *Kalantarapranhara marma* as per prognostic classification (sometimes as *Sadyopranhara*) and *Snayu marma* as per structural classification. It is present between *Angushtha* and *Anguli*. Trauma to *Kshipra marma* leads to *marana* due to *Akshepaka*. After collecting information from various ancient texts and detailed dissection on cadaver, the structures present at the site *Kshipra* can be understood as the region between 1<sup>st</sup> & 2<sup>nd</sup> metacarpal bone.

**KEYWORDS:** *Marma*, *Kshipra*, *Urdhva-shakhagata marma*, *Sadyopranahara marma*, *Kalantarapranhara marma*, *Snayu marma*, *marana*.

**INTRODUCTION**

*Marma Vigyana* was developed as science of war. There are so many references from *Vedas* regarding attack on *marma sthana* of enemies and protecting one's *marmas* by wearing protectants. Even in today's fast life, it is very important to protect our *marma sthanas* because of heavy road traffic which results in accidents causing injury to *Marmas*. Developing science invents new military armaments increasing severity of injury during war. The description of *Marma* is specialty of *Ayurveda*. This is a part of *Ayurveda Sharir*

*Shastra*. Such a description is not seen in any of the Medical System. Knowledge of *marmas* exists from very ancient time of *Vedas* (Holy books). But its development took place from Indus valley civilization to the time period of *Acharya Charaka*, *Sushruta* and *Vagbhata*. *Acharya* mentioned the total numbers of *Marmas* are 107. *Acharya Sushruta* classified *marma* as *Mamsa marma*, *Sira marma*, *Snayu marma*, *Asthi marma* and *Sandhi marma*. *Acharya Vagbhata* added one or more classification as *Dhamani marma* respectively. *Acharya Vagbhata* described the *marma sharir* in

4<sup>th</sup> chapter of *Sharirasthan* of *Ashtang Hridaya*. Marma is that place which has unusual throbbing's and pain on touch<sup>1</sup>. The *marmas* (vital spots) are so called because they cause death; and they are meeting place of *mamsa* (muscles), *asthi* (bones), *snayu* (tendons), *dhamani* (arteries), *sira* (veins) and *sandhi* (joints)<sup>2</sup>. They are indicated by the predominant structure found in them<sup>3</sup>. There are five types as *Sadhyo-pranahara*, *Kalantara-pranahara*, *Vishalyaghna*, *Vaikalyakara* and *Rujakara*. According to *Shabdakalpadruma*, *Kshipra* takes it from the root word 'kship' and has been assigned with the synonyms 'Sheeghra' and 'Twarita'<sup>4</sup>. It is meant as to throw, cast, send, dispatch etc. in Monier William's Sanskrit – English dictionary<sup>5</sup>. The *Kshipra marma* is situated in *Urdhva Shakha*<sup>6</sup>. It is explained as *Snayu* (based on the constitution) *marma*<sup>7</sup> and *Kalantarapranahara* or *Sadyopranahara marma* (based on prognosis of injury)<sup>8</sup>, total four in number<sup>9</sup>. It is located in between *Angushtha* (1<sup>st</sup> metacarpal bone) and *Anguli* (2<sup>nd</sup> metacarpal bone). Injury to *Kshipra marma* results in *marana* (death) due to *akshepaka* (convulsions)<sup>10</sup>. Arunadatta has detailed that the *Akshepaka* mentioned here is the *Vatavyadhi*<sup>11</sup>. It is detailed that in *akshepaka roga* the aggravated *vata dosha* permeates all *dhamanis* leading to frequent & repeated convulsions and spasm of muscles<sup>12, 13</sup>. Here the terminology of *dhamani* has been detailed as *nadi* by *Dalhana* suggesting the involvement of nervous system in it<sup>14</sup>. *Dalhana* has also mentioned that in this the whole *akshepaka* of the body takes place<sup>15</sup>. *Arunadatta* has interpreted the word 'Aakshipati' as 'Aakramati' or attacking<sup>16</sup>. It has also been mentioned that when the limbs get severed, the blood vessels get contracted to allow only little hemorrhage

and such persons, though having severe affliction, do not die like tree with several branches cut off survives<sup>17</sup>. An effort is taken to elaborate it with the help of available literature and cadaveric dissection to understand the structures present at its site & prognosis of injury to it.

## MATERIALS AND METHODOLOGY

### Materials –

1. Available literature regarding *marmas* - Ayurvedic and modern material.
2. Two cadavers – one male, one female.
3. Dissection kit.

### Methodology –

#### Study type – observational study

1. Literature study – collection of information regarding *Kshipra marma* from ancient texts like *Sushruta samhita*, *Ashtang Hridaya* etc. is done in detail.
2. Cadaveric study – dissection of two cadavers (one male and one female) is done in dissection hall of department of *Sharira Rachana*, ADMAC Ashta. At first markings are done on cadaver regarding the position of *Kshipra marma*, the web space in between 1<sup>st</sup> metacarpal (*Angushtha*) and 2<sup>nd</sup> metacarpal (*Anguli*) explained in ayurvedic texts. Hand region is dissected as per the guidelines given in the Cunningham's manual of practical anatomy<sup>18</sup> and Human anatomy by B. D. Chaurasia<sup>19</sup>. Superficial and deep dissection is done carefully to study the structures present at the marked site.
3. The information collected from literature is correlated to the findings from dissection and conclusion is drawn.

**OBSERVATIONS -** The site of *Kshipra marma* is given in *Sushruta samhita* as – it is situated between thumb and index finger.

Following observations were obtained during the study.

**Table 1 – Observations obtained from literature study of Kakshadhruka marma**

Sr. No.	Features	Sushruta
1	Numbers	02 (01 in each upper limb)
2	Type	<i>Snayu Marma</i> <i>Sadyopranahara / Kalantara Marma</i>
3	Position	Located in between <i>Angushtha</i> and <i>Anguli</i>
4	Dimension	$\frac{1}{2}$ <i>Angula</i>
5	<i>Viddha Lakshana</i> (Prognosis of injury)	<i>Marana due to Akshepaka</i>

**Table 2 – Structures that pass through this region**

Sr. No.	Structures
1	Radialis indicis artery
2	Princeps pollicis artery (interval between the 1 <sup>st</sup> dorsal interosseous & adductor muscle)
3	Deep branch of radial artery that precedes to form deep palmar arch
4	Recurrent branch of median nerve which supplies the thenar muscles.
5	Three proper palmer digital nerves of the lateral branch of the median nerve which supply the skin of both sides of the thumb & radial side of index finger.
6	First lumbrical
7	1 <sup>st</sup> palmar interossei
8	Transverse and oblique head of adductor pollicis
9	Radial bursa
10	Superficial terminal branch of radial nerve & its dorsal digital branches.



Fig. 1 Kshipra marma (Palmar aspect)



Fig. 2 Kshipra marma sthan (Dorsal aspect)

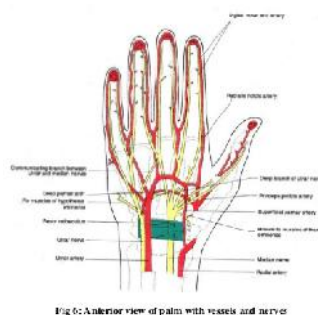


Fig. 3: Anterior view of palm with vessels and nerves



Fig. 4 deep palmar arch & its branches

## DISCUSSION

Marmas are the vital points in our body where structures i.e. *Mamsa*,

*Asthi, Snayu, Dhamani, Sira and Sandhi* meet together. Although it is said that at a time there is simultaneous presence of all structures, sometimes some of the structures are seen to be recessive. Based on the above criteria, the *Marmas* are placed in different groups and given some special names. The prognosis of injury depends upon the site of injury, depth of injury, force at which the injury is caused etc. Based on prognosis of injury at the site of *Marma*, they are classified under five headings as *Sadyopranahara, Kalantara-pranahara, Vishalyaghna, Vaikalyakara and Rujakara*. Each of these words has got a specific meaning indicating the prognosis. It is a *snayu marma, kalantarapranhara* in nature. It is also mentioned that sometimes the *marma* can be *sadyopranahara*. It has also been explained that death will occur due to *akshepaka*. *Acharya Sushruta* has mentioned that this *marma* can be sometimes turn into *Sadyopranahara*. *Akshepaka* is one among *vatvyadhis* mentioned by *Sushruta* and *Vagbhata*. In *akshepaka* the *vayu* entering *dhamani* will cause severe spasm and convulsions in the individual. More of that the attacks will be frequent. *Dalhana* has interpreted the *dhamani* as *nadi* which possibly indicates the involvement of nervous system in *Vyadhi*. It has been mentioned that in the *Kshipra marma abhigata*, there will be severe blood loss which will lead to the *Vata prakopa*. The convulsions and spasm caused by an injury due to severe blood loss is closely adherent with the similar sign found in tetanus (lock jaw). The sign of 'Opisthotonos' mentioned in tetanus is strikingly similar to the *akshepaka*. The hand and leg are the two main body parts that makes man an efficient being on earth. Our *samhitas* were written at a time when human life was not mechanized and man

had to do all his daily chores like cutting grass, wood etc. with his hand & feet. So they were more exposed to soil & dirt and hence hand had an easy chance to get wounded. The site of *marmas* in the hand and feet were more susceptible to injury & infection. The methodology of management of sepsis might have been different at the time of *Sushruta*. So this could be one of the reasons why amputation has been indicated in the *Kshipra marma abhigata* to prevent further spread of infection to upper limb. Apart from that the incubation period of *Clostridium tetani* is mentioned to be in between 4 – 14 days which strikingly matches with the fact that the person injured in the *Kalantarapranhara marma* will die within 15-30 days. There are 20 intrinsic muscles in our hand and *Sushruta* might have classified most of them as *Snayu*, due to their small size which led to the classification of *Kshipra* as a *Snayu marma*. Since thumb is the master finger, the first web space was given more importance compared to others.

**CONCLUSION:** Following conclusions has been drawn from the observations obtained during the conceptual and cadaveric study of *Kshipra marma*

- *Kshipra marma sthana* (location) found in between the *Angushtha* (thumb) and *Anguli* (index finger), as per *Sushruta samhita*.
- Based on the structural classification, it is of *Snayu marma*.
- Injury to *Kshipra marma* results in *Marana* due to *Akshepaka*.
- *Kshipra marma* is  $\frac{1}{2}$  *Angula* in dimension.

## REFERENCES

1. K. R. Srikantha Murthy, *Ashtang Hridayam (Sharirasthana)*, Chapter 4, Citation no. 37, Reprint 2003, Chowkhamba Press, Page no. 427



2. K. R. Srikantha Murthy, Ashtang Hridayam (Sharirasthana), Chapter 4, Citation no. 38, Reprint 2003, Chowkhamba Press, Page no. 427
3. K. R. Srikantha Murthy, Ashtang Hridayam (Sharirasthana), Chapter 4, Citation no. 39, Reprint 2003, Chowkhamba Press, Page no. 427
4. Radakant Dev Varada Prasad, editor, Shabdakalpadruma, Volume 2, Reprint 1987, Naga Publishers, Page no. 234
5. Monier Williams Sanskrit – English Dictionary, Reprint 2005, Motilal Bawarisdass, Page no. 1294
6. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 372.
7. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 372.
8. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 372.
9. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 372.
10. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 372.
11. Harisadasivasastri Paradakara Bhisagacarya, Ashtanga Hrudayam with Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri, Reprint 2005, Chaukhamba Orientalia, Page no. 531
12. Harisadasivasastri Paradakara Bhisagacarya, Ashtanga Hrudayam with Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri, Reprint 2005, Chaukhamba Orientalia, Page no. 409
13. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 264
14. Harisadasivasastri Paradakara Bhisagacarya, Ashtanga Hrudayam with Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri, Reprint 2005, Chaukhamba Orientalia, Page no. 531
15. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 264
16. Harisadasivasastri Paradakara Bhisagacarya, Ashtanga Hrudayam with Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri, Reprint 2005, Chaukhamba Orientalia, Page no. 532
17. Susruta Yadavji Trikamji Acharya, Susruta Sanhita with Nibandha Sangraha of Dalhanacharya, Reprint 2008, 8<sup>th</sup> edition, Chaukhamba Orientalia, Page no. 375
18. G. J. Romanes, Cunningham's Manual of Practical Anatomy, Vol. 1, 15th edition, Reprint, 2012, Oxford University press, Publications, Page no. 20-34
19. B. D. Chaurasia, Human Anatomy, Vol. 1, Reprint, 2009, CBC Publication, Delhi, Page no. 37-60

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