A Study of Adhoshakhagata Marma with special reference to Kshipra Marma

Mehak kamboj\textsuperscript{1,}\textdagger, Tanvi Mahajan\textsuperscript{2} and Pramod Anand Tiwari\textsuperscript{3}

\textsuperscript{1,2,3}Deptt. of Rachna Sharira, Babe Ke Ayurvedic Medical College & Hospital, Daudhar (Moga), Punjab, India

Abstract
The Marma is very important and unique concept of the Ayurvedic system of medicine. Kshipra Marma is one among the Adhoshakhagata Marma and Kalatarapranahara Marma. Depending upon the prognosis of the injury, sometimes this marma behaves as Sadhyapranahara. That’s why, it is essential for the surgeon or medical man to have complete acquaintance of the structures present at the site of Kshipra Marma while performing surgical procedures like Shastrakarma (Siravedha), Agni Karma and Ksharkarma and more. In present era, people are very vulnerable to accidental injuries and site of Kshipra Marma get injured in most of the cases. To get the proper guidelines for the cure and surgical/medical management of the injury at the location of kshipra marma, the structures present at the site of Kshipra Marma should be understood properly.

Keywords
Ayurveda, Kalantara pranahara marma, Adhoshakhagata marma, Kshipra marma, Cadaveric dissection
INTRODUCTION

Marma Vigyana is very imperative and unique concept of Rachna Sharira. The word ‘Marma’ (vital point) and its application exist from the Vedic period and its first reference was given in Rigveda. Charaka Samhita is the first documentation which has mentioned marma in samhita and the detailed description was been made available by Acharya Sushruta as he mentioned 107 Marma points, their types, numbers, location, Pramana (dimension) and Viddha Lakshana (traumatic effects). Marma vigyana was developed as science of war. There are so many references from Vedic and epic period regarding attack on Marma Sthana of enemies and protecting one’s Marma by wearing protectants.

Marma is an anatomical site where confluence of Mamsa (muscle), Sira (vessel), Snayu (tendon), Sandhi (joint), Asthi (bone) occurs and Prana dwells at these sites; but it is evident from the description of injuries that the traumatic effect or prognosis entirely depends on the predominance of the tissue type at the Marma. Acharyas has mentioned various types of ‘Marmas’ on the basis of their Sankhya, Rachna and Pramana and Viddha Lakshana. Depending upon the Viddha Lakshana, ‘Marmas’, there are 5 types: Sadhya Pranahara, Kalatarapranahara, Vishalyaghana, Vaikalyakara, Rujakara. Adhoshakhagata Marma are 22 in number and out of which, kshipra marma gets much more importance. Now a days, the location of this Marma is most commonly get injured and any damage to it, can lead to symptoms which may be fatal. So, to acquire the complete knowledge of Kshipra Marma, will go through the cadaveric dissection and literary sources to get the information of this marma.

Kshipra marma (Adhoshakhagata)

Acharya Sushruta acknowledged it as the first Marma under Sushruta Samhita. Kshipra takes it root from the word स्थिप and has been assigned with the synonyms Seeghra and Twarita. It is two in number (1 in each Adhoshakha) and situated in between Angushta (big toe) and Pradeshini Anguli (second toe).

Table 1 Showing Panchavidha Classification of Kshipra Marma

<table>
<thead>
<tr>
<th>Panchavidha classification</th>
<th>Shadanga anusara</th>
<th>Adhoshakhagata marma anusara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shadanga</td>
<td>Adhoshakhagata marma anusara</td>
<td></td>
</tr>
<tr>
<td>Rachna</td>
<td>Snayu marma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>anusara</td>
<td></td>
</tr>
</tbody>
</table>
Pramana anusara ½ anguli
Parimana Kalantar pranahara marma anusara
Panchbhuta Agni+Jala

1. Available literature regarding Marmas-Ayurvedic and modern material.
2. Two male and one female cadaver.
3. Dissection kit.

- The Marmaghata Lakshana of Kshipra Marma is Marana (death) ensued by Akshepa\textsuperscript{13} and it is Kalantar Pranahara in nature.
- If the Marma- Kshipra is severed, it may causes excessive haemorrhage with aggravated vayu produces severe pain. When the Marma site gets pierced, the person will die due to severe pain and haemorrhage like the tree which deteriorates when the roots gets abruptly cutted by a weapon\textsuperscript{14}. So, this Marma can sometimes turn into Sadhya Pranahara Marma\textsuperscript{15}.
- In ancient time, due to lack of improvised method of treatment of sepsis, amputation had been indicated in Kshipra Marma Abhigata to prevent further spread of infection to lower extremity.

**MATERIALS AND METHODOLOGY**

- Materials –
- Methodology – Study type – observational study
  1. Literature study – collection of information regarding Kshipra marma from ancient texts like Sushruta Samhita, Ashtang Hridya etc. is done in detail.
  2. Cadaveric study – dissection of two male and one female cadaver is done in dissection hall of department of Rachna Sharira, Babeke Ayurvedic Medical College & Hospital, Daudhar, Moga. At first markings are done on cadaver regarding the position of Kshipra Marma, the web space in between the Angushta (big toe) and Pradeshi Anguli (second toe) explained in ayurvedic texts. Foot region is dissected as per the guidelines given in the Cunningham’s manual of practical anatomy. The information collected from literature is correlated with the findings from dissection and conclusion is drawn.

  For a good interpretation and understanding of Marma with respect of the location, there
is need of study of anatomy particularly, the area between big toe and second toe.

![Image of human foot showing location of Kshipra Marma](image1)

**Fig. 1** Showing Location of Kshipra Marma on Cadaver

![Image of human foot showing structures of dorsal aspect of foot](image2)

**Fig. 2** Showing Structures of Dorsal Aspect of Foot

<table>
<thead>
<tr>
<th>Mamsa</th>
<th>Sira</th>
<th>Snayu</th>
<th>Asthi</th>
<th>Sandhi</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Dorsal</td>
<td>Dorsalis Pedis Artery &amp; Deep Peroneal Nerve</td>
<td>Tendons of Extensor Hallucis Longus, Extensor Hallucis, Brevis, Metatarsal and Intermetatarsal ligament</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; &amp; 2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; &amp; 2&lt;sup&gt;nd&lt;/sup&gt; Metatarsophalangeal Joint</td>
</tr>
<tr>
<td>Lumbrical</td>
<td></td>
<td></td>
<td>Metatarsal Bone, Distal Phalange &amp; Sesamoid Bone</td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

Concept of *Marma* is one element of the divine *Ayurvedic* system of medicine and *Kshipra Marma* is *Snayu Marma* as per structural classification. As there is predominance of tendinous structure at the site of this *Marma* which represents the tissue involved in *Kshipra Marma* (*Snayu Marma*).

The *Marmaghata Lakshana* of *Kshipra Marma* is *Marana* (death) followed by *Akshepa* (convulsions). It is detailed that in *Akshepaka Roga* the aggravated *Vata Dosha* permeates all *Dhamanis* leading to frequent and repeated convulsions and spasm of...
muscles\textsuperscript{16,17}. Here the terminology of Dhamani has been detailed as Nadi by Acharya Dalhana suggesting the involvement of nervous system in it and has also mentioned that in this the whole Akshepa of the body takes place\textsuperscript{18}. The presence of dorsalis pedis artery and branch of deep peroneal nerve favour the condition of tetanus as the exotoxins travel through the vasculonervous tissue. The sign of ‘opisthotonus’ (Dhanurvata) stated in tetanus is strictly similar to the Akshepa. There is severe spasm and convulsions in the individual and these are very much correlated to signs noticed in tetanus.

The first reference of Kshipra Marma with respect to its site is very relevant with the historical background of tetanus\textsuperscript{19}. The incubation period of clostridium tetani is mentioned to be in between 4-14 days which strictly matches with the fact the person injured in Kalantara Pranahar Marma will die within 1 week-1month. This is also the reason for comparison of Marmaghata Lakshana of Kshipra with tetanus.

**CONCLUSION**

Following conclusions has been drawn from the observations obtained during the conceptual and cadaveric study of Kshipra Marma.

- The site of Kshipra Marma found in between the Angushta (big toe) and Pradeshini Anguli (second toe) as mentioned in Sushruta Samhita and the structures that were seen during dissection were:
  - Based on the Rachna Anusara Bheda (structural classification), it is Snayu Marma.
  - Kshipra Marma is \( \frac{1}{2} \) Anguli in Pramana.
  - Injury to Kshipra Marma results in Marana due to Akshepa which can be compared with tetanus.

<table>
<thead>
<tr>
<th>Mamsa</th>
<th>Sira</th>
<th>Snayu</th>
<th>Asthi</th>
<th>Sandhi</th>
</tr>
</thead>
<tbody>
<tr>
<td>First dorsal lumbrical</td>
<td>Dorsalis pedis artery &amp; Deep peroneal nerve</td>
<td>Tendons of Extensor hallucis longus, Extensor hallucis brevis</td>
<td>1\textsuperscript{st} &amp; 2\textsuperscript{nd} Metatarsal bone, Distal phalangeal joint</td>
<td>1\textsuperscript{st} &amp; 2\textsuperscript{nd} Metatarsophalangeal joint</td>
</tr>
</tbody>
</table>

**REFERENCES**
2. Dr. Bhaskar Govind Ghanekar; Edited Sushruta Samhita Sharira Sthana 6/22; Reprint 2006 New Delhi: Meher Chand Lachmandas Publications; P-186.
3. Dr. Bhaskar Govind Ghanekar; Edited Sushruta Samhita Sharira Sthana 6/22; Reprint 2006 New Delhi: Meher Chand Lachmandas Publications; P-186.
7. Dr. Bhaskar Govind Ghanekar; Edited Sushruta Samhita Sharira Sthana 6/31; Reprint 2008, New Delhi: Meher Chand Lachmandas publications; P-190.
16. Dr. Ambikadatt Shastri; Edited Sushruta Samhita Nidana Sthana 1/50-51; Reprint
2007 Varanasi: Chaukhambha Sanskrit Sansthan; P-301.
17. Kaviraja Atrideva Gupta; Edited Ashtanga Hridaya Nidana Sthana 15/16; Reprint 2007 Varanasi: Chaukhambha Sanskrit Sansthan; P- 277.