



Anatomical understanding of Padagata Koorchashira Marma in Ayurveda

Raviraj S Kurabet^{1*}, Bhagawan G Kulkarni²

1. Ph D Scholar, Department of Rachana Sharira, Faculty of Ayurved, Parul University, Vadodara, Gujarat & Assistant Professor, Department of Rachana Sharira, Govt Ayurveda Medical College Bengaluru, Karnataka.

2. Professor, Department of Rachana Sharira, Parul Institute of Ayurved & Research, Parul University, Vadodara, Gujarat, India.

*For Correspondence: dravirajsk@gmail.com

ABSTRACT

Ayurveda the science of life deals with maintaining health of an individual not only physical but also mental and spiritual. This requires a modern knowledge to establish its potency through extensive research. Shareera Rachana is the branch of Ayurveda which deals with anatomical structures the body. Various terminologies are the main source of acquaintance of this branch. In Ayurveda vital spots are explained in the name of Marma which is most widely described and at the same time one of the most debated topics in Brahatrayees. Acharyas have mentioned the total number of Marmas as 107. Acharya Sushruta has classified Marma based on location and also based on involvement of Marma Vastu. Padagata Koorchashira Marma is classified under Shakhagata Snayu Marma. Although the gross location and Viddha Lakshanas are available in Samhitas, but detail description of particular structures present in Padagata Koorchashira Marma region are lacking in ancient texts. This study is to make the comprehensive and conceptual study on Padagata Koorchashira Marma as mentioned in texts, in the view of applied and regional anatomy described in the contemporary science with the help of cadaver dissection. Applied anatomy provides knowledge of practical application of anatomical knowledge for diagnosis and treatment. Thus, the complete knowledge of Padagata Koorchashira Marma is very much essential to become a good physician and surgeon.

Keywords: Koorchashira, Shakhagata

Received 12.02.2023

Revised 22.04.2023

Accepted 24.05.2023

INTRODUCTION

Ayurveda the science of life deals with maintaining health of an individual not only physical but also mental and spiritual. It describes human body by dividing it into six parts called Shadanga. Even though all the parts of body are significant, there are vital spots called Marma. There is a vital force which is driving the life of mankind which is called Prana. Marma is considered as the point where there is conglomeration of five human basic structures like Mamsa, Sira, Snayu, Asthi and Sandhi [1]. These specific locations are explained under the concept of Marma Shareera in classics. The injury to Marma leads to termination of life or disabilities. Thus, from surgical point of view knowledge of Marma is important. Vaidya in olden times had to deal with more emergencies during the time of war and it might have been the reason why Marma was given at most importance in our Samhitas. Description of 107 Marmas given by all Acharyas being classified into five varieties on basis of involved structures, five on basis of effect of injury and five on basis of location in the body. Padagata Koorchashira Marma under the classification on basis of involved structures, this is Padagata Snayu Marma [3].

CLASSIFICATION OF MARMA [4]

All the 107 Marmas [2] are classified into five different groups

1. Rachanusara (Structural classification)
2. Shadangbhedena/Avayavabhedena (Regional classification)
3. Parinama bhedena (Prognostic classification/Traumatological classification)
4. Maanabhedena (Dimensional classification)
5. Sankhyabhedena (Numerical classification)

STRUCTURAL CLASSIFICATION [5]

According to Sushruta, Marma Vasthus are Mamsa, Sira, Snayu, Asthi and Sandhi. He classified Marmas according to the predominance of structures present in that area such as Mamsa Marma, Sira Marma, Snayu

Marma, Asthi Marma and Sandhi Marma. He also said that apart from these 5 types no other types are found³. Sushruta classified Marma into five types. They are 11 Mamsa Marma, 41 Sira Marma, 27 Snayu Marma, 8 Asthi Marma and 20 Sandhi Marma.

KURCHASHIRA MARMA: It is defined as the Shira of Kurcha [4]

Location: Kurchashira Marma is present below the Gulpha Sandhi on both sides [5]

Classification:

Stananusara : Adho Shakha

Rachananusara : Snayu Marma

Pramananusara : one Angula [6]

Parinamanusara : Rujakara [7, 8]

Sankyanusar : 2

Viddha Lakshana:

Injury to kurchashira Marma leads to Ruja and Shopha [9]. Term Ruja means pain and Shopha means swelling.

OBSERVATIONS: Dissection of lower limbs of 5 cadavers was done in the region of Adho Shakhagata Snayu Marma in the dissection hall of Government Ayurveda Medical College Bangalore. The following observations were made during the dissection.

Kurchashira Marma:

Dorsal Aspect

From superficial to deep: Skin, Superficial fascia of the dorsum of the foot was dissected. In front of the ankle the deep fascia forms thickened band known as the inferior extensor retinaculum. Inferior extensor retinaculum: is like Y-shaped band and its stem is attached to upper surface of anterior part of the calcaneus and it lies medial to extensor digitorum brevis. The upper band was passing medially and upwards for its insertion, whereas the lower band was observed as medially and downwards.

Structures below the retinacula (medial to lateral):

The tendons of: Tibialis anterior, extensor hallucis longus, extensor digitorum longus, peronius tertius.

Dorsalis pedis artery- Was identified exactly in between two malleoli on the dorsum of foot. Superficially the extensor hallucis brevis was crossing the dorsalis pedis from medial to lateral side. On medial side extensor hallucis longus muscle was identified. Further it was passing forwards along the medial side of dorsum of foot. Deep peroneal nerve-Identified in between two malleoli and it was crossed superficially by the extensor hallucis longus and it entered into the dorsum of the foot. Here it was located in between the extensor hallucis longus and extensor digitorum longus with the dorsalis pedis artery.

Plantar Aspect

From superficial to deep: Skin and superficial fascia in the region of heel was removed. Just below that pad of fat was observed. It was arranged in small tight compartments. Apex of Plantar aponeurosis (modified deep fascia) - It was triangular in shape, having a thickened central part. The apex part was attached with medial tubercle of calcaneum, proximal to the attachment of flexor digitorum brevis.

Origin of flexor digitorum brevis- which originates from the medial tubercle of calcaneum and plantar aponeurosis, plantar surface of calcaneum was identified. Origin of flexor digitorum accessories- after removing the origin of flexor digitorum brevis, flexor digitorum accessorius was identified. Its medial head was taking origin from the medial tubercle of calcaneum and lateral head which was more tendinous, took origin in front of the lateral tubercle of calcaneum and from the long plantar ligament.

Dissection findings in Padagata Koorchashira Marma from Superficial to Deep:

Fig 1: Location of Padagata Koorchashira Marma in dorsal aspect of foot.



Fig 2: Location of Padagata Koorchashira Marma in plantar aspect of foot.

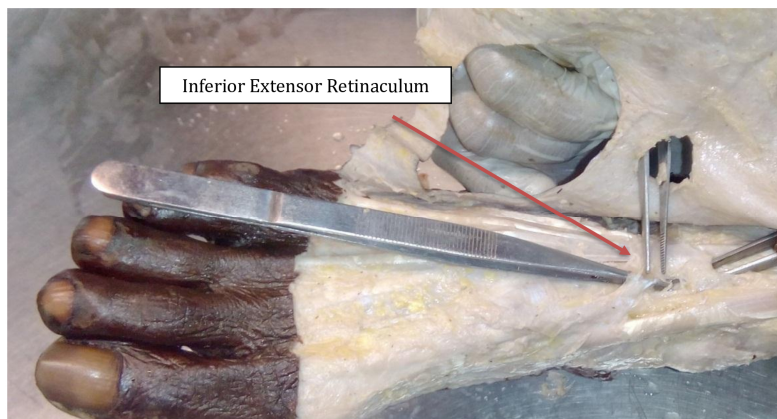


Fig 3: Structures found in Padagata Koorchashira Marma Pradesh in dorsal aspect of foot

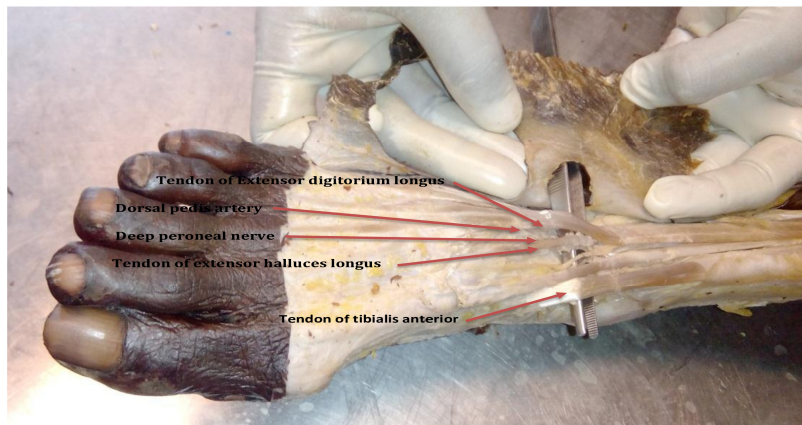


Fig 4: Structures found in Padagata Koorchashira Marma Pradesh in dorsal aspect of foot

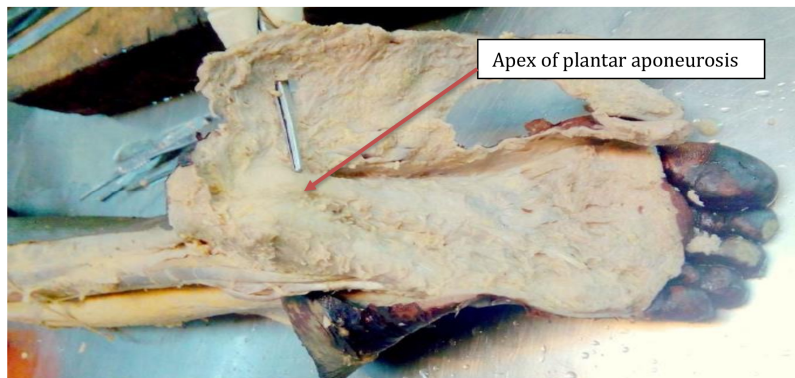


Fig 5: Structures found in Padagata Koorchashira Marma Pradesh in Plantar aspect of foot



Fig 6: Bones of foot

DISCUSSION

Discussion on location:

- The region of Marma is below and on both sides of Gulpha Sandhi.
- Here the region just below the ankle joint on the dorsal and plantar aspects can be taken.
- Dorsally, the region can be considered as in front of ankle joint where the Y shaped band of deep fascia is seen that is over the posterior part of the dorsum of the foot.
- In the plantar aspect, the region where the apex of plantar aponeurosis and attachment of flexor digitorum brevis to the calcaneum bone can be considered.

Discussion on Marma Vasthu:

- Snayu Marma Vasthu : Inferior extensor retinaculum, Tendons of tibialis anterior, Extensor hallucis longus, Extensor digitorum longus, Peronius tertius, deep peroneal nerve, Apex of plantar aponeurosis since it is the modified deep fascia. As snayu is the binding material, plantar aponeurosis can be considered here.
- Mamsa Marma Vasthu : Flexor digitorum brevis, flexor digitorum accesorius.
- Sira Marma Vasthu : Dorsalis pedis artery, medial and lateral plantar areteries.
- Asthi Marma Vasthu : Talus, plantar surface of calcane
- Sandhi marma vasthu : Talo calcaneo navicular joint.

Discussion on Marma Vidha Lakshanas:

Injury to this Marma leads to Ruja and Sopha. The occurrence of pain and swelling in the Marma Pradesha may be due to the following reasons: When the tip of plantar aponeurosis gets infected it will cause severe pain and tenderness in front of calcaneal region. When hard fall into the heel, calcaneal fracture occurs because it disrupts the subtalar joint, where the talus articulates with the calcaneus and thus produces swelling and pain. Plantar fasciitis is associated with severe pain in the heel region and whole foot. The compression of tibial nerve will produce pain and numbness in heel. Calcaneal bursitis (retroachilles bursitis) results from inflammation of the deep bursa of the calcaneal tendon located between the calcaneal tendon and the superior part of the posterior surface of the calcaneus. It causes pain posterior to the heel and occurs quite commonly during long-distance running, basketball, and tennis. It is caused by excessive friction on the bursa as the tendon continuously slides over it. Fractures of the talar neck may occur during severe dorsiflexion of the ankle. In some cases, the body of the talus dislocates posteriorly. In these cases, it can injure the tendons of tibialis anterior, flexor hallucis longus and can produce pain and swelling in that region. Due to the above said reasons there will be occurrence of Ruja and Sopha in Marma Pradesha. Since pain is one of the main features of injury, it is classified under the category of Rujakara Marma.

CONCLUSION

Present work was taken up with an idea of updating early concept of Padagata Koorchsira Marma in view of modern applied and regional anatomy. Applied anatomy provides knowledge of practical application of anatomical knowledge for diagnosis and treatment. Though the description and Viddha Lakshanas of these Marmas are available in Samhitas, the structures like muscles, ligaments, tendons, arteries, veins, nerve etc present in these regions, their anatomical description and their applied aspects needs more clarification.

So a humble effort is made for the better understanding of Padagata Koorchsira Marma and their Viddha lakshana in this study. Regional anatomy is studied with the help of cadaver dissection and their applied anatomy is listed based on clinical anatomy.

REFERNCES

1. Sushruta. Yadavji Trikamji Acharya, editor. Sushruta Samhita with Nibandha Sangraha of Dalhanacharya. 8thed. Varanasi: Chaukhambha Orientalia; 2008. Pp.824, p.371.
2. Sushruta. Yadavji Trikamji Acharya, editor. Sushruta Samhita with Nibandha Sangraha of Dalhanacharya. 8 thed. Varanasi: Chaukhambha Orientalia; 2008. Pp.824, p.369
3. Sushruta. Yadavji Trikamji Acharya, editor. Sushruta Samhita with Nibandha Sangraha of Dalhanacharya. 8thed. Varanasi: Chaukhambha Orientalia; 2008. Pp.824, p.369.
4. Williams M. A, Sanskrit- English Dictionary, Reprint, 2005, New Delhi: Bharatiya Granth Niketan; pp: 1333. p.769
5. Radhakanthadeva Bahadura, Shabda Kalpa Druma, reprint 1988, Part-2, Delhi, Nag Publishers; pp: 926, p.170
6. Sushruta. Yadavji Trikamji Acharya, editor. Sushruta Samhita with Nibandha Sangraha of Dalhanacharya. 8thed. Varanasi: Chaukhambha Orientalia; 2008. Pp.824, p.370.
7. Vagbhata. Harisadasivasastri Paradakara Bhisagacarya, editor. Ashtanga Hrudayam with Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri. Varanasi: Chaukhambha Orientalia; 2005. Pp.956, p.415.
8. Sushruta. Yadavji Trikamji Acharya, editor. Sushruta Samhita with Nibandha Sangraha of Dalhanacharya. 8thed. Varanasi: Chaukhambha Orientalia; 2008. Pp.824, p.374.
9. Sushruta, Sushruta Samhita with the Nibandha Sangraha commentary of Sri Dalhana Acharya, edited by Vaidya Jaadvji Trikamji Acharya, Chaukhambha Sanskrit Sansthana: Varanasi, 2010, Pp-824, p.372.

CITATION OF THIS ARTICLE

Devraj J Saroj, Jayaprakash A N. A review on methods of Rasa Bhasma preparation according to Rasa Tarangini. Bull. Env. Pharmacol. Life Sci., Vol 12 [7] June 2023: 320-324