

ANATOMICAL EXPLORATION OF JAANU AND GULPHA MARMA IN RELATION TO
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ABSTRACT

Ayurveda is one of the most reliable and complete medical science. In Ayurveda, Marma is also known as Shalyavishya-ardha. Marma was first documented by Acharya Charaka, and its detailed description is mentioned in Samhita's as in Sushruta Samhita and Astanga Hridayam. Acharya Sushruta explained Marma Vidha Lakshanam in detail. Human body when exposed to trauma shows various signs and symptoms depending upon severity and type of trauma. Marma is an important consideration as per Ayurveda which plays a significant clinical role when correlated with Anatomical structure like, organs, nerves etc. Marma are the critical points in human body where Mamsa, Sira, Snayu, and Sandhi anastomose together. Its detailed knowledge is important from surgical point of view. As per our Acharya's any injury to Marma will lead to Vikalta (Injury) or Mrityu (death). The total number are 107 in number. According to prognostic classification, Jaanu comes under Vaikalyakara Marma and Gulpha comes under Rujhakara Marma whereas according to structural classification both are present under Sandhi Marma. Talking about Vaikalyakara Marma, it is an ancient surgical anatomy of orthopedic surgery and neurosurgery. Rujhakara Marma creates pain with an injury at the level of tissue damage. This work is an attempt to present proper guideline of exact location, composition, structural anatomy of Jaanu and Gulpha Marma in relation to its Vidha Lakshan in comparison to modern science.

KEYWORDS: Jaanu Marma, Gulpha Marma, Ayurveda, Sharir.

INTRODUCTION

Ayurveda is traditional healing system which means "Science of life". The science of Marma that is Marma Vigyan is extraordinary and dynamic part in Ayurveda. Description of Marma is available in Charak Siddhi in "Trimarmiya Siddhi" chapter and in Chikitsa Sthana as in "Trimarmiya Chikitsa" chapter. Sushruta Sharir under chapter "Marma Vibhagadhyay". In Astang samgrah under "Marma Vibhaga" and in Kashyapa Samhita in "Sharir Vichaya Sharir" chapter.

The word Marma is derived from "Mri Dhatu" + "Manin" Pratyaya means, which causes death.^[1] Marma sites present over human body, which are classified under various categories based upon its position, structure, effects of injury and measurement. Marma classification on basis of their position that is 44 in Shakha, 26 in Koshtha, and 37 in Urdhva Jatrugata.^[2] Marma based on classification of Parinama Bheda, it is divided as 5 types. Vaikalyakara and Rujakara Marma falls under this category. Jaanu Marma and Gulpha Marma falls under the category of Sandhi Marma. Vidha lakshanas of Marma are mentioned in Sushruta Samhita under Sharir Sthana and by Astanga Hridayam, Acharya

Vagbhatta added Dhamani Marma also in the classification.

Regional anatomy of joints and neuroanatomy has been mentioned in our Ayurvedic texts, which somewhat lies under the category of Sandhi Shariram and Marma Sharir. Vidha Lakshana's somewhere indicate the deformity which will result due to the Avhelna of Aaptavachanas, and by causing injury to the Marma points. Vidha Lakshanas in majority if correlated, it involves nerve to it. So, directionally neuro injury to the point proportionates the Marma Vidha Lakshanas.^[3] As, we are talking about Jaanu and Gulpha Marma's, the common Vidha Lakshan mentioned by our Acharaya's is Khanja, that means the vitiated vaat will act at the Kati Sthana, particularly at the movement by acting at Kandara of Sakti and produce the symptoms, where as if we talk about the foot drop it will act on movement by the injury to common peroneal nerve. Common peroneal nerve formed just above the popliteal fossa runs down and gives sort of injury has happened to the nerve then will result in branches, and if any foot drop.

AIM AND OBJECTIVES

- To study the available literature of *Jaanu* and *Gulpha Marma*.
- Anatomical exploration of exact location, composition, and structural anatomy of *Jaanu* and *Gulpha Marma*.
- *Vidha Lakshana* in relation to its modern paralance.
- To study the anatomical structure leading to the foot drop.

MATERIAL AND METHODS

CONCEPTUAL STUDY:- This part will be containing the detailed study and compilation available literature on our classics, *Ayurvedic* and modern text along with some material collected from articles found on web.

Review of Ayurvedic Literature

Jaanu Marma

- Site/ *Sthana* of *Marma* :- It is present at the junction of *Uru* and *Jamgha*.
- Types of *Marma*
According to *Parinaam* or prognostic type :- *Vaikalyakara Marma*.
According to *Sarachana* or structural type :- *Sandhi Marma*.
- Measurement/ *Pramana* of *Marma* :- 3 *Angula Pramana*.
- Deformity/ *Vikalta Lakshana* of *Marma* :- *Khanjta*.

Gulpha Marma

- Site/ *Sthana* of *Marma* :- It is present at the junction of *Pad* and *Jamgha*.
- Type of *Marma*
According to *Parinaam* or Prognostic type :- *Rujakara Marma*.
According to *Sarachana* or structural type:- *Sandhi Marma*.
- Measurement / *Pramana* of *Marma* :- 2 *Angula*.
- Deformity / *Vikalta Lakshana* of *Marma* :- *Ruja*, *Sthabdpadata*, *Khanjta*.

KHANJA LAKSHANA

Vitiated *Vaata* resides at *Kati Sthana* and affect the *Kandara* of *Sakthi* and make it movable, which results in *Khanjta*.^[4]

REVIEW OF MODERN LITERATURE

COMMON PERONEAL NERVE

It is a smaller terminal branch of sciatic nerve. It is main nerve of anterior and lateral compartment of leg.

ROOT VALUE:- It is formed by union of Dorsal Division of Ventral rami of L4, L5, S1, S2.

COURSE:- It extends from the superior angle of Popliteal fossa to the lateral angle, along the medial border of the biceps femoris muscle. It continues downward and forwards, it winds round the posterolateral aspects of neck of fibula, pierces the peroneus longus muscle, and divides into the superficial and deep peroneal nerves. Superficial peroneal nerve

supplies muscles of lateral compartment of leg and deep peroneal nerve supplies to muscles of anterior compartment of leg.^[5]

BRANCHES AND PATHWAY

While starting from popliteal fossa, the common peroneal nerve gives off:-

- 1) The genicular branches to the knee joint.
- 2) The lateral cutaneous nerve of the calf.
- 3) A sural communicating branch.

Two of the terminal branches includes

- 1) Superficial peroneal nerve (L5, S1, S2)
- 2) Deep peroneal nerve (L4, L5, S1, S2)

Superficial branch runs in and supplies the muscle of the lateral (peroneal) compartment of leg. In addition it supplies the skin over the lateral lower two-third of leg and whole of dorsum of foot except the area between the first and second toes, which is supplied by deep peroneal nerve.

Deep branch runs with the anterior tibial vessels over the interosseous membrane into the anterior compartment of leg and then over ankle to dorsum of foot. it then supplies all the muscles of anterior compartment as well as providing cutaneous supply to the area between the first and second toes.^[6]

Injury to Common Peroneal Nerve

Common peroneal nerve is most likely to be injured due to fracture of neck of fibula. It is most frequent injured nerve of lower limb. Injury to common peroneal nerve causes foot drop which is usually painless, can be correlated with the *Viddha Lakshana* of *Jaanu* and *Gulpha Marma* that is *khanjta*.

Foot Drop

In foot drop there is weakness of Dorsiflexion of ankle and eversion of foot. Inversion and planter flexion are normal and ankle jerk is intact.

DISCUSSION

Discussion on Location of *Jaanu Marma* With Modern Paralance

As per Acharya *Sushruta*, *Jaanu* is present at the junction of *Uru* and *Jamgha*.

Uru is considered as thigh region of leg and *Jamgha* can be correlated with calf region of leg.

KNEE JOINT- It is mainly a synovial joint, which allows for flexion and extension (small degree of medial and lateral rotation). It is formed by articulation between Patella, Femur, Tibia.

NEUROVASCULAR SUPPLY- It is done through genicular anastomoses around the knee, which is supplied by genicular branches of femoral and popliteal arteries.

The nerve supply is through nerves that supply the muscles which cross the joint, namely femoral, tibial and common fibular nerve.^[7]

DISCUSSION ON GULPHA MARMA WITH MODERN PARALANCE

As per *Acharya Sushruta*, *Gulpha* is present at the junction of *Pad* and *Jamgha*. *Jamgha* is considered as calf region of leg and *Pad* is considered as foot.

ANKLE JOINT- It is mainly a synovial joint of hinge variety. It has two articular surface that is proximal articular surface and distal articular surface. It allows the movement of dorsiflexion and planter flexion. It is formed by articulation of talus, tibia and fibula bone.

NEUROVASCULAR SUPPLY- Arterial supply is by malleolar branch of anterior tibial, posterior tibial, peroneal arteries. And nerve supply is through deep peroneal and tibial nerve.

CONCLUSION

The following conclusion are drawn

- 1) *Jaanu Marma* can be correlated with knee joint and as per anatomical structures present there, if peroneal nerve injury takes place, then according to the symptoms present foot drop can be correlated with *khanjta*.
- 2) *Gulpha Marma* can be correlated with ankle joint and as per anatomical structures present there, deep peroneal nerve runs with anterior tibial vessels over the introsseous membrane into anterior compartment of leg and then over dorsum of foot. Which if gets injured will give the symptoms same as *Khanjta*.

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