Kūrpara Marmābhighāta w.s.r to Volkmann’s Ischemic Contracture

Kundu Debasis 1 Bhosgikar Anup 2 Wagmare Aswinikumar 3 N G Mulimani 4

Abstract

The science of Marma (vital point), i.e., Marma Vijnāniyam is an extraordinary and dynamic part mentioned in Ayurvedic texts that has a tremendous value while performing surgery. According to Ayurveda, the knowledge of the location of Marma and Marmābhighāta (injuries to vital points) symptoms is essential before performing any surgical treatment.

For the study of the structures which are underlying at the site of Kūrpara Marma, is essential to determine the appropriate location of Kūrpara Marma. In Ayurveda, the measurement of Kūrpara Marma is mentioned to be about three Angula (three digits). Structures involves the kūrpara marma i.e elbow joint in articular capsule, radial collateral ligament, Ulnar collateral ligament, annular ligament, brachial artery, flexor & extensor group of muscles and its Viddha lakśna is kuni (contracture) and this can be correlated with Volkmann’s ischemic contracture which also involves the same structures and symptoms are almost same with viddha lakśna in kūrpara marma.[i]

Keywords: Kūrpara marma, Volkmann’s ischemic contracture.

1 PG Scholar, 2 & 3 Assistant Professor, 4 Professor & Head, Department of Rachana Sharira, N .K. Jabshetty Ayurvedic Medical College and P G Centre , Bidar, Karnataka. (India).

CORRESPONDING AUTHOR
Dr. KUNDU DEBASIS
PG Scholar, Department of Rachana Sharira, N .K. Jabshetty Ayurvedic Medical College and P G Centre , Bidar, Karnataka (India).
Email: debasis.kundu100@gmail.com
INTRODUCTION

Marmas are certain vital points spread all over the surface of the human body. Marma, definition, location, types, symptoms produced after injuries to these Marmas, and their treatment are described by all Ayurvedic texts, i.e. “pratyeka marma nirdesha sharir” in susruta samhita, “Trimarmiya Siddhi,” “Trimarmiya Chikitsa,” in Charaka Samhita, “Marma Vibhāga” in Ashtanga Sangraha, and Astanga Hridaya and “Shariravichaya Sharir” chapter in Kashyapa Samhita. In Ayurveda 107 Marmas, their classification, enumeration, description, importance, and effect of injury are described. Marmas are in very small (tila or ardhānguli pramaṇa) to very large (swāpānāla-ākunchitani or chatura anguli), some special points of the hands (bāhu) and feet (sakti) are significant. A small injury to these Marma points can be fatal comparing with major injuries at anywhere else in the body. So detailed knowledge of these Marma points is crucial for an Ayurvedic physician. Even if someone is saved after an injury to the marmas, due to treated wisely by the surgeon, the patient would definitely suffer from disabilities.

A joint also called an articulation or arthrosis, is a point of contact between two bones, b/w bone & teeth, b/w bone & cartilage. Joints are classified into three types i.e. Synarthroses (immovable joint); Amphiarthroses (slightly movable joint); Diarthroses (freely movable joint). Joint are also classified into fibrous, cartilaginous and synovial type. Elbow joints is one of them, it is hinge type of synovial joint, that produces pronation and supination movement. It articulation b/w the trochlea & capitulum of humerus & trochlear notch of ulna & head of the radius. The joint is supply by the branches of median, ulnar, musculocutaneous and radial nerve.
In Ayurveda total no of sandhi, according to charaka-290, susruta -210 and astanga hridaya -2000 elbow joint is one of them and it is known as kūrpara sandhi. Sandhies are classified into chala and achala, and chala sandhies are again divide into alpachesta and bahuchesta. Kūrpara sandhi is one of the samdansa kora which is one of the bahuchesta sandhi.

Kūrpara marma is described in sakhagata marma and structurally sandhi marma and traumatically vaikalyakara marma and having three anguli pramana. Its vidha lakṣṇas are functional deformity or kunhi with haemarrage. It’s underlying structure are mamsa: supinator, extensor carpi radialis, biceps, triceps and pronator teres muscles, sirā: brachial artery, tributaries of cephalic and median cubital vein, snayu: capsular ligament, radial and ulnar co-lateral ligament, annular ligament with median nerve its branches, asthi: the trochlea & capitulum of humerus & trochlear notch of ulna & head of the radius, sandhi: elbow joint is hinge type of synovial joint.

Any injury on elbow region may leads to Volkmann’s ischemic contracture but it is commonly caused due to supra-condylar fracture of the humerus.

Volkmann’s contracture results from acute ischemia/necrosis of the muscle fibres of the flexor group of muscles of the forearm, especially flexor digitorum profundus and flexor pollicis longus which becomes fibrotic and short.

Volkmann’s ischaemic contracture is a contracture of the muscles of the forearm that commonly follows fracture of the distal end of the humerus or fractures of the radius and ulna. In this syndrome a localised segment of the brachial artery is commonly the victim either by thrombosis or spasm or kinking, followed by reducing the arterial flow to the flexor and extensor muscles so that
they undergo ischaemic necrosis, muscular infraction and subsequent contracture.

In the stage of ischemia the signs like pain, pallor, puffiness (oedema), pulselessness and paralysis (5 P’s) will be seen. Pain on passive extension of the fingers is constantly absent and the skin temperature of the affected hand will definitely be lower than its healthy counterpart.

In the stage of contracture the finger becomes flexed but they can be, at least partially, extended when the wrist is flexed.

**DISCUSSION**

In marma shareera kūrpara marma is a vaikalyakara marma & Its viddha lakṣṇas are functional deformity or kuni with severe hemorrhage, which is correlated with the Volkmann’s ischemic contracture. Injury occurs due to number of playing years, & also war injuries, side sweep injury or missile or high velocity injuries or bullet injury, any tight bandage / plaster in this area, after reducing any fracture or dislocation in this area, or after operating in this area. As for ability, poor technique increases the chance for injury much like any sport. Therefore, an individual must learn proper technique for all aspects of their sport.

Increased tissue pressure is the key to compartmental syndrome .once the pressure is raised; it can compromise the local circulation by decreased perfusion pressure, arteriolar closure, and reflex vasospasm.

**CONCLUSION**

After review of concept of Marma, literature related to kūrpara marma conclusion can be drawn as follows:

1) The concept of Marma is a unique in Ayurveda, is mostly related to the vital structures according to the modern science

2) Description related to kūrpara marma is clearly understood by the dissection with the help of modern Anatomy. The location of kūrpara Marma, its relation and the measurement are correlated with elbow joint.

3) Kūrpara Marma is located between prabahu(arm) and prapani(forearm) i.e lies in elbow region.

4) The Viddha lakṣṇas of kūrpara Marma is kunihi. The symptoms are similar with acute ischemia or necrosis of muscle fibres of flexor group of forearm occurs when there is trauma over the elbow joint. Sushruta has classified kūrpara Marma as Sandhi Marma, vaikalyakar and any type of injury, maximum chances of joint injury and main symptom appears deformity i.e vikalata.

Prevention of Volkmann’s ischaemic contracture: decrease the amount of playing time if already injured or feeling pain in outside part of the elbow. Strengthen the muscles of the forearm i.e (pronator quadratus, pronator teres, and supinator muscle)—the upper arm: (biceps, triceps) and the shoulder (deltoid muscle) and upper back (trapezius). Increased muscular strength increases stability of the elbow joint. Gross management are reassurance, supported guarded stretching, dynamic splintage, and supported stretching surgery. In Ayurveda agnikarma, sira vedha (blood letting), suchi karma (acupuncture) and massage are treatment is recommended.

**Further Scope for the Study:**

1. The further study will be taken as the clinical study. The injured cases related to Marma point can be taken from the trauma centres and military hospitals
2. Practical importance of a particular Marma can only be experienced by taking guidance of Marma practitioner.
3. Volkmann’s ischemic contracture is most common sports injuries. Almost million people are evaluated each year for 25% of all sports related injuries. So this study will be used for the sports injury treatment.
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