

## COMPREHENSIVE STUDY OF ADHOSHAKHAGATA URVI MARMA

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### ABSTRACT

The *Marma vijñana* is considered to be a most important part of shareera, it deals with the vital part of body. In human body total 107 *Marma* are present. *Urvi Marma* comes under *sira marma*, it is situated in the middle one third of middle part of thigh region. It composed of mainly femoral artery & vein profunda femoris vessels. Injury to *Urvi Marma* leads to *shonita kshaya* and *sakthi sosha*. Therefore the clinical aspect of *Urvi Marma* with in lower limb is reviewed in this paper.

**Keywords:** *Marma*, Adductor canal, *Urvi*, femoral artery.

### INTRODUCTION

Knowledge of the *Marma* is described as half of the knowledge of *Shalyatantra*, since persons injured in the vital spots die immediately; if anyone survives by the efficiency of the physician he is sure to suffer from deformities.<sup>1</sup> Injury to the *Marma*, though slight, will produce severe pain/troubles; similarly the diseases localized in the *Marma Sthana*; hence they should be treated with great care and effort.<sup>2</sup> The *Urvi Marma* is the *Shakhagata Marma*, *Vaikalyakar* in nature and it is a *Sira Marma*. It is four in number. The injury effect of this *Marma* is mentioned as *shonita kshaya* and *sakthi sosha*.<sup>3</sup>

### AIM & OBJECTIVE

A conventional anatomical aspect of *urvi marma* is still now unavailable. The aims of this studies are 1. to explore the conventional entity of *urvi marma* by its fundamental analysis in respect to clinical presentation associated with *urvi marma* injury in lower limb

### MATERIALS & METHODS

Data obtain from various medical text books, ayurvedic compendia, published scientific research article or sources has been collected, analyzed & presented in regards to concerned topics. Clinical observational data was collected from nearby orthopaedic hospitals by collecting 30 Patient with history

of trauma to the middle one-third of the shaft of femur.

Clinical observational data was collected from nearby hospitals as per following assessment criteria.

**Table 1:** inclusion & exclusion criteria

| Inclusion Criteria  | Exclusion criteria  |
|---|---|
| <ul style="list-style-type: none"> <li>Diagnosed cases of middle one-third of shaft of femur fracture due to injury.</li> <li>Patient with in the age group of 18-40 years irrespective of sex.</li> <li>X-ray for confirming diagnosis shaft of the femur fracture.</li> </ul> | <ul style="list-style-type: none"> <li>Osteoporosis.</li> <li>Infection.</li> <li>Tumors of bone and joints.</li> <li>Neoplasm.</li> <li>Surgical interventions.</li> <li>Congenital anomalies.</li> <li>Any associate lower limb trauma</li> <li>Any pathological fracture.</li> </ul> |

**OBSERVATION**

Thirty cases were collected with aged between 18 to 40 irrespective of sex. The male cases were twenty (66.66%) & female were ten (33.33%). Twenty five (83.33%) cases were injured due to road traffic accident & five (16.66%) cases were injured due to fall down. Among thirty cases twenty one (70%) was simple fracture & nine (30%) were compound fracture. Pain & swelling were present in all cases (100%). Active vascular & neurological damage were not seen in any cases, but mild haemorrhage was seen in two (6.66%) cases.

**DISCUSSION**

As per *Ayurveda* classics each *Marma* is composed of *mamsa, sira, snayu, asthi and sandhi*, but out of this one structure is predominant in each *Marma*. Again *Marma* are classified according to traumatological effect as- *sadya pranahara, kalantara pranahara, visalyagnya, vaikalyakara & rujakara Marma*.

In the lower limb *Urvi Marma* is *sira Marma* and *Vaikalyakara* in nature. The injury effect to *Urvi Marma* in lower limb was mentioned in classics as *shonita kshaya* and *sakthi sosha*.

In this study Out of thirty cases, haemorrhage(mild) found in 2 cases (6.66%). In the lower extremity femoral artery was injured in 27.4%. Absence of

pulse, active haemorrhage or distal ischemia present in 9.4% cases.<sup>4</sup>James.d.Hardy et al study shows 84 cases femoral artery and its branches injury out of 360 aortic and arterial injury cases.<sup>5</sup> Femoral vessels among the most commonly injured vascular structure and comprise nearly 70% of all arterial trauma.<sup>6</sup> Most are due to penetrating injury particularly gunshot wound. In the battle field injury of arteries in World War II shows the incidence of femoral artery injury greater in above the profunda femoris (81.1%) than below the profunda femoris.<sup>7</sup>The femoral artery is most commonly injured (50-60%) in lower limb vascular trauma. Mechanism of injury was RTA (53%), gunshot or fire arms (21%), and bomb blast (7%).<sup>8</sup> Femoral artery injury may be fracture of mid shaft femur or just distal to mid shaft. Approximately 86.6% arterial injuries are due to penetrating injury 13.4 % from blunt vascular injury. Acute compartment syndrome is one of the complications of fracture. In femur fracture development of acute compartment syndrome is about 3%. Thigh compartment syndrome with vascular injury is about 57.7%.<sup>9</sup>Initial injury whether traumatic or hemorrhagic leads to swelling with in a compartment. This causes an increase intra compartmental pressure. Samee.K.Khan et al case study shows a 27 year old

man presented with pain & swelling of right mid thigh, clinically diagnosed of impending compartment syndrome due to an idiopathic hematoma on anterior compartment of thigh.<sup>10</sup>

On the basis of literary review tissue ischaemia occur due to haemorrhage, thrombosis, embolism and tight plaster and tourniquet.<sup>11</sup> Injury to femoral artery and rupture of aneurysm may lead to haemorrhage. Fat Embolism occurs due to fracture of long bone.<sup>12</sup> It is apparent that skeletal muscle is the predominant tissue in the limb but also the tissue that is most vulnerable to ischemia. Physiological and anatomical studies show that irreversible muscle cell damage starts after 3 hours of ischemia and is nearly complete at 6 hours. In dead leg (charley horse syndrome), forceful injury on the front of the thigh can damage the rectus femoris muscle which leads to intermuscular or intramuscular bleeding. If the bleeding is intramuscular the pain and limitation of movements are extreme. The chronic haematoma get fibrosed and may require excision. Thigh compartment syndrome is surgical emergencies with risk of high mortality and morbidity rates. Patients who underwent delayed fasciotomies had twice the rate of major amputation and a fourfold higher mortality when compared with patients who underwent early fasciotomies.<sup>13</sup> It may lead to muscle and nerve ischemia with muscle infarcted and nerve damage if prompt treatment is not instituted. Common complication of compartment syndrome of thigh is neurological deficit. Hoffmeyer and co-worker compared the histological finding in muscle of patient with acute and late presentation of limb compartment syndrome. In early stage of this they found marked perifascicular and intrafascicular oedema with dissociation of muscle fiber and necrosis.

In the late stage marked atrophy & hypertrophy of muscle fiber containing numerous lipid globules aligned in inter myofibrillar space were found.<sup>14</sup>

## CONCLUSION

On traumatic point of view *Vaikalyakarata* is considered as due to muscular atrophy may lead to disability and deformity of thigh. As *Viddha lakshana* of *urvi marma* are *sonita kshaya* and *sakthi sosha*. *Sonita kshaya* is due to injury to femoral vessels and profunda femoris vessels that lead to haemorrhage and haematoma .

*Sakthi sosha* is due to acute compartment syndrome may lead to muscular atrophy or injury to nerve which supplied to vastus medialis, intermedialis, adductor magnus muscle may lead to muscular atrophy. Now a day's incidence of limb atrophy due to vascular injury is very less because of early attempt to patient & advancement of surgical procedures.

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