

# Clinicoanatomical Study of Katiktaran Marma

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**Abstract:** The human anatomy (shareera rachana) is an important for allied health sciences. It is one of the fundamental subject to the health science. The study of human being includes Physiological, Anatomical and Pathological Entities. Ancient seers of Ayurveda have classified the elements of the body under three fundamental components- Dasha, Dhatu and Mala. These three entities are responsible for the maintenance of structural and functional integrity of the body among these basic elements Dhatu are especially meant for Dharana & Poshana of Shareera. The equilibrium state of these Dhatu results in Arogya, where as any imbalance in It produces Vikara. The seven dhatu described in Ayurvedic text, in this sequence Asthi Dhatu is the fifth Dhatu which is meant for Dharana karma this is physiological function but when the asthi dhatu is vitiated due to trauma or any other injuries it produces disease leading to deformity or death. In surgical point of view. Asthi is also considered as a type of Marma. Marma are classified in to several groups named after their individual predominant structure. On the basis of predominant structures Acharya sushrut described eight Asthi Marma or bony spot such as katik tarun marma. Katik tarun Asthi Marma are the physio-anatomical vital areas in the human body. Injury to these vital areas leads to vata vyadhi associated with rakta dosha and triguna. So, we can say without the knowledge of human anatomy and physiology, the physician cannot become perfect in the profession. So, the ancient Acharyas like Sushruta, Charaka and Vagbhata were given importance to the knowledge of Asthi dhatu and Asthi Marma on refrence of katik tarun marma.

**Keywords:** Katiktaran Marma.

## 1. Introduction

Marma are classified in to several groups named after their individual predominant structure. On the basis of predominant structures Acharya sushrut described eight Asthi Marma or bony spot.

These Asthi Marma are the physio-anatomical vital areas in the human body. Injury to these vital areas leads to vata vyadhi associated with rakta dosha and triguna. So, we can say without the knowledge of human anatomy and physiology, the physician cannot become perfect in the profession.

So, the ancient Acharyas like Sushruta, Charaka and Vagbhata were given importance to the knowledge of Asthi dhatu and Asthi Marma. Kateek tarun marma can be correlate with the sacro iliac joint along with internal iliac artery.

## 2. Material and Method

Literary study was undertaken by the data, compiled from Brihatrayis, Laghutrayis and other classical texts including

journals, presented papers, previous thesis work done and correlated, analyzed with the knowledge of contemporary science on the subject.

Observations are analyzed and correlated in the view of ancient description of structures and traumatological effects of asthi marma.

Following material and method were used to conduct this study.

Ayurvedic part of literary and conceptual study was carried out by data compiled from different Samhitas, texts of Ayurveda and other classical literatures. Modern anatomical study was carried out with help of modern literature, journals and internet material.

## 3. Ayurvedic Review of Literature

### A. Definition of Marma

#### 1) Charak Samhita

Acharya charak has described marma are the particular seats of chetana or consciousness so any form of affliction to it leads to excruciating pain.

#### 2) Sushruta Samhita

Marma consists of aggregate of Mamsa, Sira, Snayu, Asthi, Sandhi in which particularly Prana by nature stays. That which leads to death or which gives misery to individual similar to death when injured is called Marma.

#### 3) Bhavprakash

He stated that, Marmas are confluence of sira, snayu, sandhi mamsa, and asthi and are the definite seat of vital force.

#### Diameter and number of katik tarun marma:

Its diameter which are mention in our Ayurvedic text book as a 1/2 angul and it has two in number

#### Classification of dosh predominant on marma:

According to rachna katiktarun marma is a kalantar pran hara marma which have some and Agneya in nature.

#### Fatal period:

Its marma belong as a someya and agneya in nature so its fatal period is 15th day. Panchbhautika Composition of Asthi Marma.

Pancha Mahabhuta are the basic constituent of every matter in the universe and that of Asthi Marma also. The Asthi Marma react according to the dominance of particular mahabhuta and gives a significant knowledge about the reaction towards the external trauma. The same also provide an idea about the

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precautions that has to be taken to cope up with the hazards that may develop accidentally by the nearby marma during a planned surgery or war.

Kalantarpranhara marma injury leads to dhatu kshaya or loss of body and finally loss of consciousness and death. Marma is also reservoir of prana. The prana pervades every cell of the body through the innumerable nadis in which it moves or flows. There are Dasha Pranayatanas told in Ayurvedic Classics, generally Soma (Kapha), Maruta (Vaayu), and Tejas (Pitta), and Rajas, Satva, and Tamas along with Atma stays in Marma, that is why they do not survive if injury takes place on Marma. That is why named as Prana. these structure to be affected due injury over on katik tarun marma.

#### *Modern Review of Sacroiliac Joint:*

The sacroiliac joint is the joint in the bony pelvis between the sacrum and the ilium of the pelvis, which are joined by strong ligaments. In humans, the sacrum supports the spine and is supported in turn by an ilium on each side. The joint is a strong, weight bearing synovial joint with irregular elevations and depressions that produce interlocking of the two bones.

According to anatomy of gray's, the sacro iliac articulation is synovial and between the auricular surface of the sacrum and ilium. The sacroiliac joints are two paired "kidney bean" or L-shaped joints having a small amount of movement these irregularities more pronounced in male and fit into another restrict movements and contribute to the strength of the joint, which transmits weight from the vertebral column to the lower limb. The joints are covered by two different kinds of cartilage; the sacral surface has hyaline cartilage and the iliac surface has fibro cartilage its stability is maintained mainly through a combination of only some bony structure and very strong intrinsic and extrinsic ligaments.

#### Associated Anatomical structures of sacro iliac region

- Common iliac artery & its branch
- Anterior sacroiliac ligament
- Posterior sacroiliac ligament
- Interosseous sacroiliac ligament
- Sacrotuberous ligament
- Sacrospinous ligament

The anterior ligament is thin and not as well defined as the posterior sacroiliac ligaments.

The posterior sacroiliac (SI) ligaments can be further divided into short (intrinsic) and long (extrinsic).

The dorsal interosseous ligaments are very strong ligaments. They are often stronger than bone, such that the pelvis may actually fracture before the ligament tears. The dorsal sacroiliac ligaments include both long and short ligaments. The long dorsal sacroiliac joint ligaments run in an oblique vertical direction while the short (interosseous) runs perpendicular from just behind the articular surfaces of the sacrum to the ilium and functions to keep the sacroiliac joint from distracting or opening. The extrinsic sacroiliac joint ligaments (the sacrotuberous and sacrospinous ligaments limit the amount the sacrum flexes (or nutates). Physiology the Sacro iliac joints' function is shock absorption for the spine.

The Sacroiliac joint, like all lower extremity joints, provides

a "self-locking" mechanism. Its most congruent position, also called the close pack position) that helps with stability during the push-off phase of walking. The joint locks (or rather becomes close packed) on one side as weight is transferred from one leg to the other, and through the pelvis the body weight is transmitted from the sacrum to the hip bone.

The common iliac arteries:

It has large arteries that originate from the aortic bifurcation at the level of the fourth lumbar vertebra. They bifurcate into the external iliac artery and internal iliac artery. it situated in front the sacro iliac joint

They are about 4 cm long in adults and more than a centimeter in diameter.

The arteries run inferolaterally, along the medial border of the psoas muscles to their bifurcation at the pelvic brim, in front of the sacroiliac joints.

The common iliac artery, and all of its branches, exist as paired structures (that is to say, there is one on the left side and one on the right).

The distribution of the common iliac artery is basically the pelvis and lower limb on the corresponding side.

## 4. Observation

Here I have observed some important points of Asthi marma in respect to modern science their anatomical structures and their associated pathology (particular marma sthana), sign, symptoms, prognostic status and complications of post traumatic effects.

It is Asthi Marma Varity which is delayed fatal on injury. It is situated on the both sides of the vertebral column where sacrum meets with pelvic bone which is Ardha anguli in measurement. It means sacro-iliac joint region. General symptoms of Katikatrana Marma injury are loss of blood (shonita kshaya), Pandu (anemia) discoloration or produces different colours (vivarna), disfigure (heena roopata) and death (Marma).

in this region pelvic bone located at in front of the sacroiliac joint protecting major blood vessels of pelvic cavity with main nerves. In front of the sacroiliac joint the terminal branches of common iliac artery divides in to external and internal iliac artery. Therefore, after injury to this bone leads to rupture of major blood vessels.

Traumatologist explains injury to internal vessels is always hazardous due to lack of coagulation causes chronic internal bleeding and needs emergency surgical intervention. Acharya Sushruta explained the stages of internal blood loss is very systematically. such as Shonita kshaya- (loss of blood), this is due to rupture of major blood vessels in pelvic cavity near to the sacro-iliac joint), Pandu (anemia) discoloration or produces different colours (vivarna), disfigure ( heena roopata) and death (Marma). Katikataruna Marma has been defined as the cartilaginous bone. This can be correlate with cartilaginous part of ilium and sacrum over sacro-iliac joint, common iliac artery and its branches mainly internal iliac artery Which if injured causes hemorrhagic anemia, weakness and pallor. Sacroiliac joint injury is difficult to diagnose and treat due to complexity of structures. This joint plays major role in weight bearing & in

front of this common iliac artery bifurcates. Thus, if injury occurs at this joint may also damage these arteries which are difficult to manage.

### 5. Conclusion

The pelvis is a ring structure made up of three bones: the sacrum and two innominate bones. The fusion of three ossification centers, the ilium, the ischium, and the pubis, makes up the innominate bone. The pelvic ring is formed by the connection of the sacrum to the innominate bones at the sacroiliac joints and the pubis symphysis.

On this joint ligament structures help to stability of the pelvis. The strongest and the most important ligament structures occur in the posterior aspect of the pelvis at the Sacroiliac joints. The posterior ligaments have to hold up the weight-bearing forces that occur from the lower extremities to the spine and are transferred to joint

On this joint the major blood vessel located on the inner wall of the pelvis are the median sacral artery and the superior rectal artery; the common iliac divides to give off the external iliac and the internal iliac, which also branches off to give the superior gluteal artery. During a pelvic fracture, or sacroiliac injury these arteries and associated structures can be injured and causes some Complication such as Hypovalumic shok, Disability in lower limbs, Death. Katikatrana Marma injury are loss of blood (shonita kshaya), Pandu (anemia) discoloration or produces different colours (vivarna), disfigure (heena roopata) and death (Marma).

### 6. Discussion

#### *Kateek tarun Marma:*

It is Asthi Marma Varity which is delayed fatal on injury. It is situated on the both sides of the vertebral column where sacrum meets with pelvic bone which is Ardha anguli in measurement. It means sacro-iliac joint region. General symptoms of Katikatrana Marma injury are loss of blood (shonita kshaya), Pandu (anemia) discoloration or produces different colours (vivarna), disfigure (heena roopata) and death (Marma).

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Traumatologist explains injury to internal vessels is always hazardous due to lack of coagulation causes chronic internal bleeding and needs emergency surgical intervention. Acharya Sushruta explained the stages of internal blood loss very beautifully.

Shonita kshaya- (loss of blood), this is due to rupture of major blood vessels in pelvic cavity near to the sacro-iliac joint.

Pandu, Vividha varna – this is due to moderate blood loss, means other than pale yellow, little bit bluish coloration starts

to occur. Sometimes it exhibits mixed colour, this is second stage of bleeding.

Heena roopata – this is the third stage of bleeding due to excessive blood loss & distortion of pelvic girdle, leads to heena roopata.

Marana – this is last stage of bleeding means it leads to death by hypovolemic shock, Prognostic status of Katika taruna Marma is Kalantara pranahara & its fatal period has been told from one fortnight to a month so Marana may occur in a month.

On discussion we can confine that the Anatomical structures under the Marma as Sacroiliac joint, terminal branch of common iliac artery (internal iliac).

### Abbreviations

G.P. - Garul puran  
 A.Pu. - Agni Purana  
 A.K. - Amarkosha  
 Ast.Hri. - Ashtang Hridaya  
 Ast.Hri.Sh - Ashtang Hridaya Sharirsthana  
 Ast.Hri.Su. - Ashtang Hridaya Sutrasthana  
 Ast.Sa.Sh - Ashtang Sangraha Sharir sthana  
 Ast.Sa.Su - Ashtang Sangraha Sutra sthana  
 Ath.V. - Atharvaveda  
 Bh.Pr.Pu. - Bhavaprakash Purvakhand  
 B.Sha. - Brihachharim  
 Ch.Chi. - Charak Samhita Chikitsasthana  
 Ch.Sh. - Charak Samhita Sharirsthana  
 Ch.Su. - Charak Samhita Sutrasthana  
 Ch.Su. (Chak) - Chakrapani teeka on Sutrasthana of Charak Samhita  
 Ch.Vi. - Charak Samhita Vimanasthana  
 Ka. - Kashyap Samhita  
 Ka.Sh. - Kashyap Samhita Sharirsthana  
 Ka. p.v.n. - Kanth parivajrakopnishad  
 M.Bh. - Mahabharat  
 V.r. - Valmikiramayan  
 Pra.Sh. - Pratyaksha Shariram  
 Pra.Up. - Prashnopanishad  
 Ram. - Ramayana  
 Ri.V. - Rigaveda  
 Sa.Sh.K. - Sanskrit Shabdarth Kaustubh  
 Sha.Kal. - Shabdakalpadrum  
 Sha. S.m. - Shabdastom Mahanidhi  
 Sha.Pu.k. - Sharangdhar Purvakhand  
 Sha.Pu.Kh. (Adh) - Adhamal Teeka on Sharangadhar Purvakhand  
 Su.Chi. - Sushrut Samhita Chikitsasthana  
 Su.Ka. - Sushrut Samhita Kalpasthana  
 Su.Sh. - Sushrut Samhita Sharirsthana  
 Su.Sh.(Dal.) - Dalhana Teeka on Sharirsthana of Sushrut Samhita  
 Su.Sh.(Ghan) - Ghanekar Teeka on Sharirsthana of SushrutSamhita  
 Su.Su. - Sushrut Samhita Sutrasthana  
 Su.Ut.(Dal.) - Dalhana Teeka on Sharirsthana of Sushrut Samhita  
 V.P. - Vachaspatyam  
 V.Sh.Si. - Vadyak Shabda Sindhu  
 Vi.Pu. - Vishnu Purana  
 Y.V. - Yajurveda  
 P-g. - Page number  
 R.M.v. - Rajnighantu manush varga  
 Abh.c. - Abhi dhan cunamani

### References

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