



ANATOMICAL PERSPECTIVE OF BASTI MARMA AND ITS CLINICAL SIGNIFICANCE

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ABSTRACT:

Ayurveda is a system of medicine, which gives the way of perfect living with nature. The one and only purpose of *Ayurveda* is maintaining the health of a healthy person while treating the diseased individual by maintaining the state of health (mentally, physically and spiritually). In *Ayurveda*, the concept of *marma* is of utmost importance as applied or surgical anatomy. *Marma* is defined as the anatomical area where the five principal anatomical structures *mamsa*, *sira*, *snayu*, *asthi* and *sandhi* are present; they are critical points in the body with different organs, structure and nerves lying underneath. Unique concept of *trimarma* is explained by *Acharya Charak*. He was the first to give this great science in its mortal form. The *trimarma adhyaya* is the special attribute to the *marma chikitsa* which represents the emergency aspect of ayurvedic treatment. *Basti marma* is the basic authoritative organ representing the urinary system of the *body*. *Basti marma* is *sadyapranhara* and thus it is the centre of *vata dosha* and so physiologically it plays a vital responsibility in maintaining health. Injury of *basti marma* causes immediate death, due to severe injury. Since the *basti* is the seat of *vata* and *vata* is responsible for the majority of diseases. So, it is very important to keep *basti* healthy to keep *vata dosha* in healthy condition.

Key words:- *kala*, *basti*. *Marma*, *sadyaprahara*, urinary bladder.

INTRODUCTION:

Ayurveda's literal interpretation is the time honoured knowledge of life, offering insights into achieving an ideal way living in harmony with nature. Indeed, the accurate diagnosis of any illness holds significant importance prior to commencing treatment. Likewise, a thorough understanding of *Rachna Sharira*(Anatomy) is essential before making a diagnosis. *Maharshi sushruta* consider basti as *sadyapranharamarma* and having the predominance of all the five constituents such as *mamsa*, *sira*, *snayu*, *asthi*, *sandhi* in a *marma*(vital spot) make it *sadyapranhara* which means immediate death. Nowadays *marma* therapy is evolved for the management of pain in vital areas. *Basti*(urinary bladder) is a *snayu marma*(structure), located in the *Madhya sharir* or *udara*(abdomen). *Basti marma* include urinary bladder, hypogastric plexus and ureters so these are the vital part of the body and injury to these parts may lead to shock and sometimes death.

AIM AND OBJECTIVE: - To study the Anatomical and surgical importance of *Basti marma* according to *Ayurved* and modern science.

Observation:-

Ayurvedic review of Basti Marma

Basti marma is considered as *sadyaprahara marma* and *sadyapranhara marma* are *agneya*(have quality of fire), hence by this fiery nature they kill debilitated people quickly.^[1] In the fatal spots all the five components (muscle, vein, ligaments, bones and joints) are present in all variety of fatal spots.^[2] *Basti marma* is situated within the *Kati* region(lumbar region) having less *mamsa* and *rakta*(muscle and blood supply) and acts as reservoir for urine. *Ashmai vrana*(abscess due to calculus and immediate death may occur. In case of *ashmari*(calculus) patient dies because *mutrasravi vrana*(discharging abscess) is formed.^[3] *Acharya Vagbhata* consider as *sadyapranhara marma* because they are *agneya* in nature(having predominance of fire elements, duration of life when they injured is less than 7 days.^[4] The predominance of all five constituents such as *mamsa*, *sira*, *snayu*, *asthi sandhi* etc, in *marma*(vital spot) make it *sadyoprahanhara* (causing death quickly), absence of one of them or presence in less proportion will make it (vital spot) naturally belongs to other kind in respective order.^[5] *Basti marma* is one among the *trimarma*, and it is classified into various categories such as:- *Madhya sharir gata marma* , *udaragata marma* (*Madhya sharir* is considered as the middle portion of the body, trunk.)*Udara* considered as abdomen. ^[6] *Basti marma* is

described under *snayu marma*. *Basti* is predominantly made up of *snayu*. i.e., ligaments and fibre tissue which forms the structure component of this *marma*. The other elements namely *sira*(blood vessels) *asthi*(bone), *sandhi*(joints), and *mamsa*(muscles) are also present but in lesser proportion.^[7] When the hands and feet are cut off the veins become constricted, then if little amount of blood is lost, life is possible, but when the vital spots are injured causing severe haemorrhage then death occurs due to consequent abnormality of *vata*. So when treating an injury to vital spots, any surgical operations (cutting, piercing, tearing etc), should be done over the region of a joint of that part.^[8] In *Ashmari chikitsa*, *Acharya Sushrut* mentioned that when the *ashmari*(calculus in the bladder) does not get reduced by medication to the bladder then the next treatment is cutting (the urinary bladder). Success in this surgical treatment is uncertain even for the intelligent (skilled) surgeon; hence this treatment is considered as the last resort. If this (surgical) treatment, is not performed, death is sure and if done then result is uncertain.^[9] When the urge of urination is suppressed then the person eliminates urine with difficulty, small in quantity and often, pain in penis, rectum, groin, urinary bladder, scrotum and region of

umbilicus and also head, the bladder becomes greatly distended accompanied with severe pain.^[10]

Anatomical consideration of urinary bladder:-

Basti is considered anatomically structured as a urinary bladder. The urinary bladder is the temporary store house of the urine which gets emptied through the urethra. Urinary bladder is a muscular reservoir of urine, which lies in the anterior part of the pelvic cavity. The detrusor muscle of the urinary bladder is arranged in the whorls and spirals and is adapted for mass contraction rather than peristalsis.

The bladder varies in size, shape and position according to the amount of urine it contains. When empty, it lies entirely within the pelvis; but as it fills it expands and extends upwards into the abdominal cavity, reaching up to the umbilicus or even higher.^[11]

Interior of the bladder:- In an empty bladder, the greater part of the mucosa shows irregular folds due to its loose attachment to the muscular coat. In a small triangular area over the lower part of the base of the bladder, the mucosa is smooth due to its firm attachment to the muscular coat. This area is known as the trigone of the bladder. The apex of the trigone is directed downward and forwards. The internal urethral orifice, opening into the urethra is located here the ureters open at the

posterolateral angle of the trigone. Their openings are 2.5cm apart in the empty bladder and 5cm apart in the distended bladder. A slight elevation in the trigone immediately posterior to the urethral orifice produced by the median lobe of the prostate is called the uvula vesicae. The base of the trigone is formed by the interureteric ridge or bar of mercier produced by continuation of the inner longitudinal muscle coats of the two ureters. The ridge extended beyond the ureteric fold over the intestinal part of the ureters. [12]

Capacity of bladder:- The mean capacity of the bladder in an adult male is 220 ml, varying from 120 ml to 320 ml. Filling beyond 220 ml causes a desire to micturate, and the bladder is usually emptied when filled about 250 ml to 300 ml. Filling up to 500 ml may be tolerated, but beyond this it becomes painful. Referred pain is felt in the lower part of the anterior abdominal wall, perineum and penis. [13]

Arterial supply: - The bladder is supplied by the superior and inferior vesicle arteries, branches of anterior trunk of the internal iliac artery.

Additional supply is derived from obturator, and inferior gluteal arteries, and in females from the uterine and vaginal arteries instead of inferior vesicle.

Venous drainage:- Venous drainage lying on the inferolateral surface of the bladder there is a vesical venous plexus. Veins from this plexus pass backward in the posterior ligaments of the bladder, and drain into the internal iliac vein.

Nerve supply:- The urinary bladder is supplied by the vesical plexus of nerves which is made up of fibres derived from the inferior hypogastric plexus. The vesical plexus contains both sympathetic and parasympathetic components each of which contain motor or efferent and sensory or afferent fibres. [14]

Bladder injuries:- The bladder may rupture intraperitoneally or extraperitoneally, intraperitoneal rupture usually involves the superior wall of the bladder and occurs most commonly when the bladder is full and has extended up into the abdomen. Urine and blood escape freely into the peritoneal cavity. Extraperitoneal rupture involves the anterior part of the bladder wall below the level of the peritoneal reflection. It most commonly occurs in the fraction of the pelvis when bony fragments pierce the bladder wall. Lower abdomen pain and blood in urine (haematuria) are found in most patients. [15]

Tumours:- The urinary bladder and renal pelvis are common sites for urinary tract tumours then the ureters and urethra. Majority of urinary tract tumours are epithelial both

benign and malignant tumours occurs more than 90% of bladder tumours arise from transitional epithelial (urothelium) lining of the bladder in continuity with the epithelial lining of renal pelvis, ureter and the major part of urethra.^[16]

DISCUSSION:

Basti marma is considered as *sadyapranhara marma* by *Acharyas* of *ayurveda*. They are *agneya* in nature (having quality of fire). *Basti marma* is present inside the pelvis, consisting less of blood and muscles, and is the seat (organ) of urine. Injury to the *basti marma* causes death, except when wounds are due to renal calculus. The duration of life when *basti marma* is injured is less than 7 days. The urinary bladder has four surfaces- superior, inferior and two lateral surfaces. Superior surface is attached with the peritoneum, inferior and two lateral surfaces are retroperitoneal (not attached with peritoneum). If trauma occurs, when the bladder is full of urine; then there will rupture of bladder, rupture can be occur in any of the surfaces. if the rupture occurs in superior surface then urine flows into the abdomen cavity, hence, the rupture called intraperitoneal. This cause pain, shock like symptoms and gradually change to severe peritonitis. The rupture of the bladder in this way causes sudden death.

CONCLUSION:

marma are vital points over the body and *Basti marma* is situated in the lower abdomen and pelvic region. *Basti marma* is considered as a urinary bladder. In ancient times the penetrating injuries due to sharp weapons used in battle were the major cause of bladder injury but these days blunt trauma due to road traffic accidents and sports injuries are the main cause of bladder injury. These injuries can damage the bladder extraperitoneally, intraperitoneally or both. The extraperitoneally injuries must be related to pelvic fracture and tear due to attached ligaments of bladder, perhaps this is the reason why Sushrut has classified marma under *snayu marma*. The intraperitoneal injuries of the bladder cause death, may occur following septic shock if proper medication is not provided in time.

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