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Rachnatmak Vikruti of Basti and their correlation with Modern Urinary Disorders: A Critical Review

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ABSTRACT

Background-Ayurveda, the ancient science of life, explains various anatomical and physiological concepts related to maintenance of health and prevention of disease. Acharya Charaka has described the importance of Trimarma—Shira, Hrudaya, and Basti in Trimarmiya Siddhi Adhyaya of Siddhistana. Among these, Basti is one of the vital organs described in Ayurvedic anatomy and is considered the main seat of Mutravaha Srotas. Any structural abnormality (Rachnatmak Vikruti) of Basti can disturb normal urinary physiology and lead to various urinary disorders. Classical Ayurvedic texts describe congenital and acquired deformities of Basti along with their clinical manifestations and functional disturbances. **Aim**- The present review aims to critically analyze the concept of Rachnatmak Vikruti of Basti and correlate it with modern urinary disorders. **Objective-** To correlate Ayurvedic concepts of Basti Vikruti with modern urinary tract and bladder disorders. **Methodology**- A review was conducted using classical Ayurvedic texts including Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya, along with published articles, journals, and contemporary literature related to urinary disorders. Correlating these classical Ayurvedic descriptions about Mutraroga with modern urinary tract disorders may help in better understanding and integrative clinical approach towards it.

Keywords: Basti, Rachnatmak Vikruti, Mutravaha Srotas, Bastigata Roga, Urinary Disorders.

1. INTRODUCTION

The human urinary tract comprising the kidneys, ureters, urinary bladder, and urethra functions as a critical homeostatic system responsible for metabolic waste filtration, systemic fluid regulation, and acid-base balancing. When any of these structures experience infection, structural damage or functional decline, a urinary disorder occurs. Urinary disorders represent a major global public health challenge. They span a wide clinical spectrum from acute easily treated infections to chronic, debilitating conditions that severely impact quality of life. Urinary disorders extend far beyond physical symptoms, they fundamentally disrupt an individual's emotional stability, social relationships, economic productivity, and daily routine. Because micturition is a private, deeply socialized behaviour, any loss of urinary control or chronic pain induces

severe psychological distress and functional limitations. Living with chronic urinary conditions transforms simple, routine tasks into highly calculated logistical challenges.

The incidence and prevalence rate of urinary disorders varies worldwide on the basis of many factors like environment, dietary shift and social stigma. Understanding localized prevalence rates, pathogen resistance profiles and demographic determinants is imperative for formulating targeted clinical pathways and optimizing resource allocation. By knowing the baseline mechanics and presentations of these disorders is crucial for early clinical intervention, preventing advanced complications like chronic kidney disease (CKD), sepsis or Renal failure and bladder deformities.[1]

In Ayurveda Basti (Urinary Bladder) is universally recognized in Ayurvedic literature as one of the three primary Marma (vital anatomical sites) i.e. Trimarma and the principal organ/seat of the Mutravaha Srotas (urinary system).[2] Classical texts describe Basti as a hollow, muscular structure (Alabu Akriti) situated within the Guda Asthi vivar (Pelvic cavity) which is mentioned by Acharya Vagbhata in Nidana Sthana and is responsible for the continuous storage and controlled excretion of Mutra (urine) processed by the kidney so called as Mutrashaya.[3] In female, relation and position of bladder is different and it is related with Garbhashaya (Uterus).[4] It is Sadyapranhara Marma and any injury to this leads to sudden death. Because it is a vital Marma, any structural or functional derangement of Basti not only impairs micturition but can also compromise systemic homeostatic vitality.[5] The structural integrity of Basti is essential for normal urinary function. Any structural abnormality or deformity, referred to as Rachnatmak Vikruti, may lead to impairment in the process of urine formation, storage, and elimination. Ayurvedic classics mention congenital and acquired abnormalities of Basti associated with various urinary symptoms and complications.[6] These descriptions indicate the profound understanding of urinary tract anatomy and pathology in Ayurveda.

Urinary bladder is a temporary storage reservoir for urine. It is hollow organ with distensible walls located in the pelvic cavity, posterior to the symphysis pubis, and below the parietal peritoneum. The size and shape of the urinary bladder vary with the amount of urine it contains and with the pressure it receives from surrounding organs. It has a folded internal lining (known as rugae), which allows it to accommodate up to 500ml of urine in healthy adults. It also helps in expulsion of urine as the musculature of the bladder contracts during micturition, with concomitant relaxation of the sphincters. Detrusor muscle, internal and external sphincter plays crucial role in regulation of process of urination. Impairment to these sphincters leads to many urinary disorders.[7]

The Mutravaha Srotas (urinary system) is the most crucial system for maintaining homeostasis.[8] It controls the excretion of waste products and metabolites, such as Dosha, Dhatu, and Mala. The Mutravaha Srotas (urinary channels) are governed by Apana Vayu, one of the five types of Vayu. Vegavarodha, or the suppression of natural impulses, is a crucial factor in the development of several urinary disorders.[9] According to Ayurveda, the suppression of micturition (urination) is one of the most severe and common cause of urinary tract illness. Every Apana Vayu imbalance is unmistakably linked to illnesses of the urinary system.[10] This issue has grown more important as cities continue to grow and lack enough restroom facilities, forcing people to suppress natural urges. To restore the vitiated Apana Vayu and to restore the normal physiology of the urinary system, specific treatments are required. Basti treatment, which is one of the Panchakarma methods, is largely utilized to calm Vayu.[11]

This critical review explores the Ayurvedic concept of Rachanatmak Vikruti of Basti (urinary bladder) to establish a clinico-anatomical correlation with modern structural urinary disorders. It bridges classical knowledge from the Ayurvedic texts with contemporary urological pathologies such as congenital anomalies, acquired obstructive alterations, and bladder wall deficiencies. It may provide a broader perspective for integrative understanding and management. In the present era, there is less availability of options of conservative treatment in the contemporary science and mostly surgical treatment were used while Ayurveda has abundant conservative treatmental aspects regarding Mutragata Roga. By using Ayurvedic principles of treatment may avoid surgical interventions. This baseline correlation will enhance diagnostic accuracy, guide conservative and surgical-medical triage and foster further interdisciplinary research between Ayurvedic Sharira Rachana and contemporary urological sciences.

AIM

To study the concept of Rachnatmak Vikruti of Basti and their correlation with contemporary urinary disorders.

2. OBJECTIVE

1. To explore the concept of Rachnatmak Vikruti of Basti described in Ayurveda
2. To review the Ayurvedic description of Basti and its anatomical importance.
3. To analyse the pathological and clinical implications of these structural abnormalities.
4. To correlate Ayurvedic concepts of Basti Vikruti with modern urinary tract and bladder disorders.

3. METHODOLOGY

A literary review was conducted using classical Ayurvedic texts including Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, and relevant commentaries. Modern literature related to urinary bladder anomalies and urinary tract disorders was also reviewed. Comparative analysis was performed to establish correlations between Ayurvedic concepts and modern pathological conditions.

4. DISCUSSION

In recent years, there has been an unprecedented increase of incidences of urinary tract anomalies ranging from recurring infections to incontinence and chronic kidney conditions are highly prevalent globally. Driven by aging populations, rising diabetes rates, and sedentary modern lifestyles, early diagnosis is essential to prevent long-term damage and maintain quality of life. The urinary system is a crucial part of the body's elimination process. It filtrates waste from the blood and helps regulate fluid and electrolytes level. However, like any other system, it is susceptible to various disorders that can cause pain and leads to significant health issues.

In Ayurveda, urinary disorders (stemming from imbalances in Vata, Pitta, and Kapha) primarily affect the Mutravaha Srotas (urinary channels). Disorders such as UTIs, Cystitis and incontinence arise due to disturbances in these channels, which are commonly linked to an imbalance in the Vata Dosha. The Vata Dosha (Apan Vayu) governs movement and functionality within the urinary system, making its balance crucial for maintaining healthy urinary function. This review highlights the scientific relevance of Ayurvedic anatomical concepts and their potential role in integrative understanding and management of urinary disorders. Ayurveda categorizes various urological diseases based on their root cause and

symptomatic presentation. Acharya Charaka mentioned 13 Bastigat Mutraroga in Siddhisthana adhyay named Trimarmiya Siddhi Adhyay, where he quotes their Samprapti (pathogenesis), Lakshanas (Signs & Symptoms) and treat mental remedies.[6]

मूत्रौकसादौ जठरं कृच्छ्रमुत्सङ्गसंक्षयौ । मूत्रातीतोऽनिलाष्ठीला वातबस्त्युष्णमारुतौ ॥२५॥

वातकुण्डलिका ग्रन्थिर्विड्घातो बस्तिकुण्डलम् । त्रयोदशैते मूत्रस्य दोषास्ताँल्लिङ्गतः शृणु ॥२६॥

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In Ayurveda, Acharya mainly states these thirteen pathological conditions describe a comprehensive classification of urinary and bladder anomalies.

1] Mutrauksada[12] –

Mutraukasada, is an Ayurvedic condition were aggravated Vayu (Apana Vata) concentrates and solidifies Pitta and Kapha in the urinary bladder. The patient passes urine as red, yellow and with solids, burning sensation or white precipitates or associated with all symptoms. The name translates to "abnormal consistency of urine," leading to dysuria, sediment, and discoloration. Acharya Vagbhata also states the urine resembles the colour of Gorochana (bovine gallstone), conch shell or lime or it turns into all sorts of colours after drying.[13] In modern medicine, Mutraukasada is not a single disease, but a clinical syndrome characterized by a highly altered urinary composition, sediment formation, and severe dysuria. Depending on the specific visual presentation and physical characteristics of the urine described in Ayurveda, it correlates with several modern medical conditions like Crystalluria, Pyuria, Haematuria and Incipient Urolithiasis.

2] Mutrajathara[12] –

Mutrajathara is an Ayurvedic condition described in ancient medical texts, when urine is obstructed by suppression of urge and reversed by Vata, it blows up the abdomen which has pain without reason along with acute urinary retention and abdominal distension, symptoms of indigestion and retention of faeces. It occurs when the suppression of the urge to urinate causes the Apana Vayu (the downward-moving vital energy) to move in a retrograde or reverse direction. In modern medicine, Mutrajathara is most directly correlated with Acute Urinary Retention (AUR), which frequently leads to secondary neurogenic bladder dysfunction or functional bladder outlet obstruction (BOO). Because it is explicitly triggered by the voluntary suppression of the urge to urinate, it lacks an immediate organic surgical lesion (like a tumour), placing its mechanism firmly within neuro-urology.

Chronic or recurrent episodes of Mutrajathara can cause permanent anatomical deformities in urinary tract. When a person repeatedly suppresses the urge to urinate, the bladder muscle (detrusor) must work against a closed, tight sphincter it leads into **Detrusor Hypertrophy, Bladder Diverticula**, Hydroureters (massive backlog of pressurized urine forces the valves between the bladder and the ureters to fail, urine backflows into ureters.) which results into dilated ureters.[14]

3] Mutrakruchha/ Mutrashukra[12] –

In Ayurveda, this specific phenomenon is known as Shukraviddha Mūtrakṛcchra, It describes a condition when one having urge of urination goes into sexual intercourse where the natural flow of urine is obstructed (or made painful) because the Vayu (the vital bodily energy) disrupts the semen, forcing it to be discharged either before or after urination. Semen, which has been dislodged from its proper place but

not completely ejaculated, is held up or blocked by vitiated Vayu (specifically Apana Vayu). Because the reproductive and urinary tracts are closely related this obstruction disrupts the Mutravaha Srotas (the urinary channels), leading to painful, difficult, or delayed micturition. Acharya Vgbhata added symptom Bhasmodakapratikansh i,e. the colour of urine will be like ash mixed water that is muddy grey/dark grey. In modern medicine, Mutrashukra correlates directly with ejaculatory duct obstruction (EDO) and retrograde ejaculation. These conditions are mirror to the classical Ayurvedic description of semen being dislodged but blocked, leading to severe urinary dysfunction.

4] Mutrotsanga[12] –

In Ayurveda, this condition stems from the aggravation or derangement of (specifically Apana Vayu). It is often triggered by the suppression of natural bodily urges (Vegavarodha) like the urge to urinate, which forces vitiated channels and spasms. Some urine is trapped at the junction of the glans penis, causing severe pain upon delayed expulsion, or sometimes passing painlessly. The patient passes remnant urine in broken and scanty streams. There is a distinct feeling of heaviness in the penis. The expelled urine may occasionally be mixed with blood (Rakta). The primary modern clinical correlation for Mutrotsanga is urethral stricture .In modern urology, this refers to an abnormal narrowing of the urethra caused by scar tissue or chronic inflammation. The classical Ayurvedic description of urine being trapped at the junction of the glans penis (Mani), resulting in a split, scanty stream and terminal dribbling, perfectly matches the hallmark signs of a urethral stricture.

Mutrotsanga can be correlated with urethral stricture and a long term urethral stricture causes **Bladder wall hypertrophy**, **Diverticula formation**, **Urethral fistula** and hydronephrosis.[15]

5] Mutrakshaya[12] –

When a person is physically exhausted (Klaanta deha) or severely dehydrated due to fever, excessive sweating, or extreme heat exposure, the Vata and Pitta Dosha become aggravated and localize in the urinary bladder (Basti) and causes deficiency of urine, accompanied by a burning sensation and sharp pain. Because the fluid (Kleda) is depleted, the formation of urine is severely reduced. The cardinal clinical symptoms associated with this Vata-Pitta imbalance include Daha and Alpamutrata. Based on the clinical symptoms and underlying pathology described in Ayurveda Mutrakshaya can be correlated with several interconnected conditions in modern medicine. The most precise modern correlations are Oliguria (severely reduced urine output) or Anuria (absence of urine output) secondary to Severe Dehydration or Acute Kidney Injury (AKI).

Severe fluid depletion for long term can causes severe anatomical changes in urinary tract specially in bladder wall. It can cause **stenosis and atrophy of muscles of bladder**. In Ayurveda, severe Vata aggravation causes **Sankocha/Urethral Stricture** (constriction and narrowing due to scar tissue) and Paripidana (compression) of the Mutramarga (urinary pathways).[16]

6] Mutratita[12] –

Holding the urge to urinate known in Ayurveda as Mutra Vega Dharana causes the bladder muscles and sphincters to fatigue. This can lead to a condition where urination becomes slow or starts with a delay, referred to as Mutratita. Intentionally holding back urine puts retrograde pressure on urinary organs and

causes the Apana Vata to become vitiated (imbalanced). When a person finally goes for urination, urine does not flow quickly in a single stream. Instead, it dribbles out slowly, often in bits and parcels. Mutratita directly correlates to several well-documented urological disorders in modern medicine, primarily Detrusor-Sphincter Dyssynergia (DSD), Underactive Bladder (UAB), Dysfunctional Voiding and Urinary hesitancy.

Chronic urine retention and severe Mutra Vega Dharana can cause permanent anatomical deformities like **Bladder diverticula**, **Detrusor muscle hypertrophy**, **Myogenic failure** (Megabladder), Megaureter and in women, due to constant straining and downward pressure of a massively over distended bladder can weakened supportive pelvic floor mesh and this can cause Urinary incontinence and pelvic organ prolapse like **Cystocele.**[17]

7] Vatashthila[12] –

Aggravated Apana Vayu (a subtype of Vata Dosha) gets trapped in the pelvic region, often due to suppressing natural urges (like holding urine), sedentary habits, or poor diet. The trapped Vata inflates and distends the bladder and rectum. This leads to the formation of a hard, elevated, and palpable mass that feels like a stone. It causes severe, piercing pain and significant difficulty passing faeces, urine, and flatulence. The mass obstructs the flow of urine, resulting in urinary retention, straining, and bladder distention. In modern medicine, Vatashthila directly correlates to Benign Prostatic Hyperplasia (BPH), which is the non-cancerous enlargement of the prostate gland commonly seen in aging men. The anatomical description and obstructive symptoms detailed in ancient science mirrors the modern prostatic hypertrophy.

Untreated Benign Prostatic Hyperplasia (BPH) or chronic Vatashthila can cause significant anatomical and structural deformities in the urinary tract over time. When an enlarged prostate continually blocks the flow of urine, the body is forced to adapt, leading to permanent structural damage like **Bladder Wall Hypertrophy** and **Trabeculation,** Bladder Diverticulum (Outpouching) and **Progressive Bladder Distension**.[18]

8] Vatabasti [12]–

In classical Ayurveda, Vatabasti is a condition primarily caused by Vegadharana (the suppression of natural urges specifically urination). When one holds the urge to urinate, the Apana Vāyu (the downward-moving energy responsible for elimination) becomes vitiated and trapped, resulting in urinary retention, severe pelvic distress, and itching. In modern urology, Vatabasti is most closely correlated with acute urinary retention (AUR) caused by detrusor-sphincter dyssynergia (DSD) or a neurogenic bladder. When clinical findings are translated into modern pathophysiology, the alignment of symptoms and mechanics highlights several key parallels as stated above.

In advanced stages of chronic retention, the bladder muscle fibers are stretched so far past their physical limits that they snap or lose all elasticity. The bladder permanently stretches into a massive, flaccid, and thin-walled sac that has completely lost its muscular tone. This is known as **bladder decompensation** or an **atonic bladder**.[19]

9] Ushnavata[12] –

In Ayurvedic principles, when the Pitta Dosha (heat/fire) combines with an aggravated Apana Vayu (the downward-moving energy), it causes systemic heat that dries up and concentrates the urine. This causes one to pass urine as red or yellow, with difficulty and distress and burning sensation in pelvis and perineum. This imbalance can often be correlated with urinary tract infections (UTIs), cystitis, prostatitis, or dehydration in modern contexts.

10] Vatakundalika[12] –

Vatakundalika is a severe Ayurvedic condition described in texts like the Charaka Samhita, where vitiated Apana Vayu obstructs the urinary bladder. Due to retention of urine the upward moving (retrograde motion) Vayu gets vitiated in urinary tract and passage of urine as torn, pierced and coiled and affects urination along with stiffness, breaking pain, heaviness, cramps, severe pain and retention of urine and faeces. In modern medicine, Vatakundalika is strongly correlated with functional lower urinary tract obstructions and neurogenic bladder disorders, specifically where there is no mechanical or physical blockage (like a stone or tumour). Because Ayurvedic texts describe the obstruction as a result of pure "vitiated Vata" (which rules the nervous system and motor functions), it points directly to a neuromuscular coordination failure.

If left untreated or poorly managed, Vatakundalika (and its modern correlate, neurogenic bladder) can cause severe secondary anatomical deformities in both the urinary tract and the kidneys. While the condition starts as a purely functional, neuromuscular failure (vitiated Apana Vayu), the constant high fluid pressure and muscle straining eventually alter the actual physical shape and architecture of the urinary system. When the bladder muscle (detrusor) repeatedly tries to push urine out against a closed, spasming sphincter, it undergoes massive physical strain. On radiological scans (like cystography), the chronically strained bladder loses its smooth, oval shape and deforms into an elongated, jagged outline known as a **"Christmas Tree" or "Pine Cone" bladder.**[20]

11] Mutragranthi/ Raktagranthi [12]–

This condition occurs when vitiated Vata and Kapha affect the blood (Rakta Dhatu) forming a localised, hard, immobile nodular mass or cyst at the neck of the bladder. Because the nodule mechanically blocks the urinary passage, causing the urine to flow in multiple, split streams or dribble out painfully. patients experience severe pelvic pain, hesitancy, difficulty in micturition, acute retention and a sensation similar to Ashmari (urinary calculi or stones). In modern medical science, it is closely correlate with diseases like Prostatic Abscess or Acute Prostatitis, BPH (benign prostatic hyperplasia) and Urinary Bladder Neoplasms/Tumours.

When the mechanical obstruction at the bladder neck blocks urine, the pressure within the urinary system builds up heavily. Both Ayurveda and modern medical science recognize that this continuous internal stress deforms the physical structure of the lower abdomen and urinary organs. It will lead to similar deformities like urinary retention.[21]

12] Vidavighata[12] –

The condition described is Vidvighata is a rare but serious Ayurvedic pathology. In this condition, aggravated Vata and reverse movement of Vata (Udavarta) pushes faeces (Vit) to move retrogradely, a small amount of digested faecal matter move into the urinary channels, The vitiated Vata then directs this waste into the urinary bladder, causing the individual to excrete urine contaminated with faeces and having a faecal odour with great difficulty. The clinical presentation of Vidvighata perfectly maps to specific anatomical and physiological conditions in modern urology and gastroenterology. Such as Faecaluria, Pneumaturia, Enterovesical fistula, and Rectovesical fistula.

An enterovesical or rectovesical fistula can cause structural, localized anatomical deformities. While it does not deform external skeletal structures, it significantly alters internal pelvic anatomy in several distinct ways like **Bladder wall fibrosis**, Intestinal strictures, **Pelvic abscesses and cavities.**[22]

13] Bastikundala [12]–

Bastikundala occurs when physical trauma, travelling, jumping, exertion, injury or pressure displaces the urinary bladder. Urinary bladder bulges out from its place and stays blown up like foetus, and triggers agonizing pain, burning sensations, and urinary dribbling. If Vata predominates this condition, causes cramping, quivering, and severe distress. Pitta adds a burning sensation and abnormal urine coloration. Kapha leads to swelling, heaviness, and unctuous or white urine. It passes urine drop by drop but in stream if pressed. The condition of urinary bladder with obstruction of its duct by Kapha and aggravation of Pitta is incurable. The condition where the duct is not obstructed and coiling is absent is curable. Coiling of the urinary bladder can induce extreme thirst, fainting, and dyspnoea. In modern medical science, Bastikundala is most accurately correlated with a Bladder distention and displacement, atonic bladder, neurogenic bladder, severe bladder outlet obstruction (BOO) and Coiling of bladder.

Chronic Bastikundala (atonic bladder, bladder distention, and displacement) can cause significant, permanent anatomical deformities within the urinary tract and surrounding pelvic structures. When the bladder is continuously displaced or stretched the structural changes progress through several stages like Deformities of the **bladder wall** (Myogenic changes), **Fibrosis** and **Decompensations** and permanent **Cystocele.**[23]

From above discussion, it is clear that not every urinary disease causes anatomical deformities but out of 13 urinary disorders stated by Acharya Charaka in Siddhisthana 10 urinary disorder promptly can results into Rachanatmak Vikruti of Basti.

5. CONCLUSION

Ayurvedic literature describes abnormalities in the shape, position, size, and structural integrity of Basti, which may result in disturbed urine storage and excretion. These conditions can be correlated with modern disorders. The concept of Rachnatmak Vikruti reflects the Ayurvedic understanding that structural defects can lead to functional disturbances. This principle is comparable to modern medicine, where anatomical abnormalities of the urinary bladder and lower urinary tract are recognized as important causes of urinary disorders. Bastigata Roga as stated by Acharya Charaka in Siddhisthana, out of 13 disorders 10 disorders can promptly causes Rachnatmak Vikruti of Basti. Those diseases are Mutrajathara, Mutrotsanga,

Mutrakshaya, Vatashthila, Vatabasti, Vatkundalika, Mutragranthi, Vidvughata, Bastikundala. Conditions such as Atonic bladder, vesicoureteral reflux, bladder outlet obstruction, congenital bladder anomalies, urinary retention, bladder diverticula, detrusor muscle hypertrophy and benign prostatic hyperplasia may produce symptoms similar to those described in Ayurvedic literature. Comparative analysis revealed similarities between Ayurvedic descriptions and modern conditions.

Furthermore, the involvement of Vata Dosha, particularly Apana Vata, plays a crucial role in the manifestation of urinary dysfunction associated with Basti Vikruti. Disturbance of Apana Vata can impair normal micturition and contribute to disease progression. This impairment of Apana Vayu can be corrected with the Ayurvedic treatment known as Basti Chikitsa and other potential Panchkarma procedures and by this one can avoid surgical intervention. The observed similarities between classical descriptions and modern pathological conditions highlight the scientific relevance of Ayurvedic anatomical concepts. Understanding these correlations may facilitate an integrative approach to the diagnosis and management of urinary disorders while preserving the holistic perspective of Ayurveda. The review highlights similarities in symptomatology, pathogenesis, and functional impairment described in both systems of medicine.

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