

ANATOMICAL REVIEW OF MUTRAVAHA STROTAS**Vda. Kavita Raghunathrao Phad**

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ABSTRACT

Mutravaha Srotas is one of the important Srotas described in Ayurveda responsible for the formation, transportation, and excretion of Mutra (urine). The classical Ayurvedic texts provide detailed descriptions of its Moola (root), functional anatomy, and pathological manifestations. Understanding Mutravaha Srotas from both classical and modern anatomical perspectives enhances clinical applicability in urinary disorders. This article reviews the anatomical concept of Mutravaha Srotas using the IMRAD format (Introduction, Methods, Results, and Discussion), incorporating relevant Sanskrit shlokas and correlating them with contemporary urinary system anatomy. The review establishes that Mutravaha Srotas corresponds functionally and structurally to the kidneys, ureters, urinary bladder, and urethra, along with regulatory neurovascular components.

KEYWORDS: Mutravaha Srotas, Ayurveda, Urinary system, Srotas anatomy, Basti, Vrikka

INTRODUCTION

The concept of **Srotas** forms the structural and functional basis of Ayurvedic physiology. Srotas are channels through which various substances circulate in the body. Among the thirteen major Srotas described by Acharya Charaka, **Mutravaha Srotas** plays a crucial role in maintaining fluid balance and elimination of metabolic wastes.

Acharya Charaka describes:

“तत्र द्वे मूत्रवहे स्त्रोते । तयोर्मूलं बस्तिर्वङ्गणौ च।”

— चरक संहिता, विमानस्थान ५/८

Meaning: There are two Mutravaha Srotas; their roots (Moola) are Basti (urinary bladder) and Vankshana (groin region).

Acharya Sushruta states:

“मूत्रवहे द्वे स्त्रोते बस्तिमेद्रौ तयोर्मूलम्।”

— सुश्रुत संहिता, शरीरस्थान ९/१२

Meaning: The two Mutravaha Srotas have Basti and Medra as their roots.

Mutra is considered one of the three Malas (waste products):

“मलं स्वेदमूत्रपुरीषाणि।”

— चरक संहिता, सूत्रस्थान १५/५

The anatomical understanding of Mutravaha Srotas requires correlating classical descriptions with the modern urinary system.

Materials and Methods

This review article is based on:

1. Classical Ayurvedic texts:
 - Charaka Samhita
 - Sushruta Samhita
 - Ashtanga Hridaya
2. Modern anatomy textbooks and peer-reviewed articles related to the urinary system.
3. Comparative analytical methodology to correlate classical Ayurvedic descriptions with contemporary anatomical structures.
4. Review of commentaries such as Chakrapani and Dalhana for interpretative clarity.

Data were compiled, translated, and critically analyzed to develop anatomical correlations.

RESULTS

1. Conceptual Anatomy of Mutravaha Srotas

(a) Number and Root (Moola)

Charaka identifies:

- Two Mutravaha Srotas
- Roots: Basti and Vankshana

Sushruta identifies:

- Roots: Basti and Medra

These indicate both structural and functional components of urinary excretion.

2. Formation of Mutra

Mutra is formed from the liquid part of digested food (Ahara Rasa) after separation of Sara and Kitta.

“तत्र यदुदकं तद् मूत्रत्वं गच्छति।”

— सुश्रुत संहिता, शरीरस्थान

The Udaka (fluid component) after metabolic processing is converted into Mutra.

Modern correlation:

- Glomerular filtration in kidneys
- Tubular reabsorption and secretion

3. Anatomical Correlation

Ayurvedic Term	Modern Correlation
Vrikka	Kidneys
Gavini	Ureters
Basti	Urinary bladder
Mutrapraseka/Medra	Urethra
Vankshana	Inguinal region (ureteric course)

Vrikka (Kidneys)

Although not elaborately described in Charaka, Sushruta mentions Vrikka as an organ related to Mutravaha Srotas.

Modern anatomy:

- Retroperitoneal organs
- Nephrons as functional units

4. Physiology of Mutravaha Srotas

Functions include:

- Mutra nirmana (formation)
- Mutra vahana (transportation)
- Mutra visarjana (excretion)

Controlled by:

- Apana Vayu

“अपानः शक्रविष्णुमूत्रगर्भनिष्क्रमणादिषु।”

— चरक संहिता, सूत्रस्थान १२/८

Apana Vayu governs urination, defecation, and reproductive functions.

Modern correlation:

- Parasympathetic nervous system (S2–S4)
- Micturition reflex

5. Pathology (Mutravaha Srotodushti)

Charaka describes symptoms of vitiation:

“मूत्रकृच्छ्रं मूत्राघातं मूत्रातीतं च।”

— चरक संहिता, विमानस्थान ५

Clinical manifestations:

- Dysuria
- Retention of urine
- Polyuria

Modern equivalents:

- Urinary tract infection
- Obstructive uropathy
- Neurogenic bladder

DISCUSSION

The anatomical concept of Mutravaha Srotas encompasses both gross and subtle channels. Unlike modern anatomy, which focuses on visible structures, Ayurveda integrates structural, functional, and energetic components.

1. Structural Integration

The mention of Basti as Moola suggests that the urinary bladder is the primary site of clinical manifestation. However, formation occurs at the Vrikka (kidneys), indicating a broader systemic understanding.

2. Functional Integration

Mutra formation is described as a filtration process of Udaka from Ahara Rasa, which closely resembles:

- Glomerular filtration
- Selective tubular reabsorption

3. Neurophysiological Control

Apana Vayu's role aligns with:

- Autonomic nervous control
- Sacral parasympathetic outflow

4. Clinical Relevance

Understanding Mutravaha Srotas aids in:

- Management of Mutrakrichra (UTI)
- Mutraghata (urinary retention)
- Ashmari (urolithiasis)

“अश्मरी मूत्रवहे स्त्रोतसि सम्भवति।”

— सुश्रुत संहिता, निदानस्थान

CONCLUSION

Mutravaha Srotas represents the Ayurvedic concept of the urinary system integrating anatomical, physiological, and pathological dimensions. Classical descriptions of Basti, Vankshana, Medra, and Vrikka correlate with the bladder, ureters, urethra, and kidneys respectively. The role of Apana Vayu parallels autonomic regulation of micturition. Thus, Mutravaha Srotas is not merely a structural entity but a dynamic physiological system that aligns remarkably with modern urinary anatomy.

Further interdisciplinary research may help integrate Ayurvedic concepts with nephrology and urology for better clinical outcomes.

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