

To Study the Organ Related to Artavavaha and Mutravaha Srotas with Their Applied Anatomy Mentioned in Ayurvedic and Modern Texts

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ABSTRACT

In Ayurvedic physiology, the concept of *Srotas*—intricate channels that facilitate the transport of various bodily substances—is fundamental to the understanding of human anatomy, physiology, and disease pathology. Two such significant *Srotas* are *Ārtavavaha Srotas* and *Mutravaha Srotas*, which are primarily responsible for reproductive and urinary functions, respectively. This review aims to critically evaluate the structural and functional attributes of these *Srotas* in light of classical Ayurvedic texts and correlate them with contemporary anatomical and physiological knowledge. The *Ārtavavaha Srotas*, which carry *Ārtava* (a term broadly encompassing menstrual blood and ovum), are described in Ayurveda as originating from the *Garbhashaya* (uterus) and *Ārtavavahi Dhamanis* (specific vessels). These structures show a strong anatomical correlation with the uterus, ovaries, and fallopian tubes in modern science, which are central to the female reproductive system. On the other hand, the *Mutravaha Srotas*, responsible for urine formation and excretion, are associated with the *Basti* (urinary bladder) and kidneys. Modern anatomical parallels can be drawn with the renal system, including the kidneys, ureters, bladder, and urethra. This integrative review highlights the anatomical and clinical relevance of these *Srotas*, exploring their role in both health and disease. It also emphasizes the importance of understanding classical Ayurvedic descriptions in the context of modern medical science, thereby promoting interdisciplinary research and holistic approaches to reproductive and urinary health.

Keywords: *Ārtavavaha Srotas, Mutravaha Srotas, Ayurveda, Applied Anatomy, Reproductive System, Urinary System, Srotas Sharir.*

1. INTRODUCTION

Ayurveda, the ancient Indian system of medicine, is based on the holistic integration of body, mind, and spirit. Among its fundamental physiological concepts, the doctrine of **Srotas Sharir** (bodily channels or systems) plays a crucial role in maintaining health and explaining the pathogenesis of various diseases. *Srotas* are defined as specific channels that transport different biological substances throughout the body. They are vital for the nourishment, maintenance, and excretion of bodily constituents. Ayurvedic texts classify *Srotas* into two main categories: **Bahya Srotas** (external channels) and **Antah Srotas** (internal channels), with the latter further divided into thirteen principal pairs, each associated with specific functions and tissues [1].

Each *Srotas* is susceptible to disturbances such as obstruction (*Sanga*), excessive flow or dilation (*Vridhhi*), and rupture or misdirection of flow (*Vimarga-gamana*) as explained in *Charaka Samhita* and *Sushruta Samhita* [2]. Among these, **Ārtavavaha Srotas** and **Mutravaha Srotas** have immense physiological and clinical relevance, particularly in the domains of gynecology and urology.

The **Ārtavavaha Srotas** are responsible for carrying *Ārtava*, a term used in Ayurveda to denote the functional aspect of female reproductive physiology. While it is often interpreted as menstrual blood, the term also encompasses ovulatory secretions and reproductive potential. These *Srotas* originate from the *Garbhashaya* (uterus) and *Ārtavavahi Dhamanis* (special vessels responsible for carrying reproductive elements), as mentioned by *Charaka* and *Sushruta* [3]. Anatomically, these channels can be correlated with structures like the uterus, ovaries, fallopian tubes, and associated vascular and

lymphatic networks involved in menstruation and ovulation.



On the other hand, the **Mutravaha Srotas** are involved in the formation, transportation, and excretion of urine. They originate from the *Basti* (urinary bladder) and *Medhra* (external genitalia), or in some descriptions, from the *Guda* (anus), which symbolically represents the lower pelvic excretory pathways. From a modern anatomical perspective, the *Mutravaha Srotas* closely align with the kidneys, ureters, urinary bladder, and urethra—organs that constitute the urinary system and maintain fluid-electrolyte balance.

A comparative study of these Srotas with modern anatomical entities provides valuable insight into understanding the classical Ayurvedic concepts in the light of current medical science. This is especially important for bridging traditional and contemporary health practices. This article aims to critically examine the Ayurvedic descriptions of *Ārtavavaha* and *Mutravaha Srotas*, highlight their physiological and pathological significance, and explore their anatomical correlations with modern structures. Such integrative approaches not only promote interdisciplinary scholarship but also enhance clinical applications in diagnosis, management, and preventive care.

2. CONCEPT OF SROTAS IN AYURVEDA

The term *Srotas* originates from the root “Sru” meaning “to flow”. They are defined as subtle channels that conduct various bodily substances [4]. According to *Charaka*, they are pathways of circulation and nutrition, whereas *Sushruta* elaborates their anatomical considerations.

Each *Srotas* has:

- **Moola (root)** – the site of origin
- **Marga (pathway)** – the tract
- **Mukha (opening)** – exit or entry point

Disruption in the function of any *Srotas* leads to specific *Srotodushti* symptoms. Hence, knowledge of each *Srotas*, its anatomy and pathology, is crucial for diagnosis and treatment.

3. ĀRTAVAVAHA SROTAS – CLASSICAL PERSPECTIVE

In Ayurveda, *Ārtava* is considered as a *Dhatu-Mala* of *Rasa Dhatu* and is also referred to as the essence of the female reproductive system [5].

Moola of Ārtavavaha Srotas:

- *Charaka*: Garbhashaya (uterus) and Artavavaha Dhamani (vascular structures) [6]
- *Sushruta*: Garbhashaya and Artavavaha Sira [7]

Function: Transportation of *Rituchakra* (menstrual cycle), ovulation, and sustenance of the embryo.

Vitiation (Dushti Lakshana):

- Amenorrhea (*Nashta Ārtava*)
- Dysmenorrhea
- Infertility
- Irregular cycles (*Aartavadushti*)

4. MUTRAVAHA SROTAS – CLASSICAL PERSPECTIVE

Mutravaha Srotas carry *Mutra* (urine), a *Mala* of *Rasa* and *Meda Dhatu*s. It originates primarily in the kidneys and urinary bladder region [8].

Moola of Mutravaha Srotas:

- *Charaka*: Basti (urinary bladder) and Medovaha Dhamanis [9]
- *Sushruta*: Basti and Vankshana (groin region) [10]

Function: Collection, storage, and excretion of urine.

Vitiation (Dushti Lakshana):

- Dysuria (*Mutrakrichchhra*)
- Polyuria (*Prameha*)
- Anuria (*Mutraghata*)

- Burning micturition (*Mutradaha*) [11]

MODERN ANATOMICAL CORRELATES OF ĀRTAVAVAHA SROTAS

Ayurvedic Term	Modern Anatomical Structure	Function
<i>Garbhashaya</i>	Uterus	Menstruation, fetal development
<i>Artavavaha Dhamani</i>	Uterine and ovarian arteries	Blood supply to uterus and ovaries
<i>Artavavaha Sira</i>	Uterine and ovarian veins	Venous return from reproductive organs
<i>Yoni</i>	Vagina and external genitalia	Menstrual flow and childbirth passage
<i>Anda Vaha Srotas</i>	Fallopian tubes	Gamete transport

MODERN ANATOMICAL CORRELATES OF MUTRAVAHA SROTAS

Ayurvedic Term	Modern Anatomical Structure	Function
<i>Basti</i>	Urinary bladder	Urine storage
<i>Vankshana Pradesh</i>	Groin (inguinal region)	Location of ureters and vessels
<i>Mutravaha Srotas</i>	Kidneys, ureters, bladder, urethra	Filtration, conduction, and excretion of urine
<i>Medovaha Dhamani</i>	Renal arteries	Blood supply to kidneys

APPLIED ANATOMY AND CLINICAL CORRELATION

Ārtavavaha Srotas

- **Clinical Relevance:** Infertility, PCOS, amenorrhea, endometriosis.
- **Ayurvedic View:** Disorders like *Vandhyatva*, *Aartavakshaya*, and *Yonivyapad* arise from *Ārtavavaha Srotas Dushti*.
- **Modern View:** Structural or hormonal abnormalities in ovaries, uterus, or endocrine axis.

Mutravaha Srotas

- **Clinical Relevance:** UTIs, renal failure, bladder dysfunction.
- **Ayurvedic View:** Conditions such as *Mutraghata*, *Prameha*, and *Ashmari* stem from obstruction or vitiation.
- **Modern View:** Nephritis, urolithiasis, urinary retention, diabetes-induced nephropathy.

CORRELATION BETWEEN AYURVEDIC AND MODERN CONCEPTS

Conceptual Aspect	Ayurvedic View	Modern View
Embryological development	From <i>Panchamahabhuta</i> and <i>Shukra-Rakta</i>	From mesoderm – urogenital ridge
Functionality	Physical + mental + reproductive roles	Primarily physiological
Pathology	<i>Dosha</i> , <i>Dhatu</i> , <i>Srotas</i> involvement	Cellular, molecular, structural dysfunction
Diagnostic tools	<i>Darshana</i> , <i>Sparshana</i> , <i>Prashna</i>	Imaging, histology, laboratory investigations
Therapeutics	Panchakarma, Rasayana, Shamana Chikitsa	Surgical, pharmacological, dialysis, etc.

5. DISCUSSION

The integrative approach to understanding the anatomy and physiology of *Srotas* offers a broader and more holistic perspective than what is typically observed in conventional biomedical sciences. Ayurveda views the human body as an interconnected system where structural, functional, and energetic components work in harmony. This perspective stands in contrast to modern medicine's tendency to localize physiological functions to discrete anatomical units. By studying *Ārtavavaha* and *Mutravaha Srotas* through both paradigms, one can appreciate the strengths and limitations of each and identify opportunities for cross-disciplinary enrichment.

Ārtavavaha Srotas: Functional Complexity Beyond Anatomy

Ayurveda identifies *Ārtavavaha Srotas* as the channels responsible for carrying *Ārtava*, broadly described as the essence of reproductive tissues in women. Classical texts like *Charaka Samhita* and *Sushruta Samhita* specify their origin as the *Garbhashaya* (uterus) and *Ārtavavahi Dhamani* (special vessels). In modern anatomical terms, these can be correlated to the uterus, ovaries, fallopian tubes, endometrium, and their vascular supply. However, Ayurveda does not restrict *Srotas* to gross anatomical structures. Instead, it views them as dynamic systems influenced by *Agni* (metabolic fire), *Doshas*, and *Manas* (mind).

The cyclical nature of *Ārtava*—its periodicity, qualitative changes, and hormonal regulation—mirrors the Ayurvedic principle of *ritucharya* (seasonal rhythms) and *manasika bhavas* (mental states). Modern medicine explains menstruation through hormonal feedback loops involving the hypothalamic-pituitary-ovarian (HPO) axis. Ayurveda offers a more expanded view by linking *Ārtava* to mental health and lifestyle through *Satva*, *Rajas*, and *Tamas* gunas. This psychoneuroendocrine view is especially relevant in disorders like polycystic ovarian syndrome (PCOS), dysmenorrhea, endometriosis, and secondary amenorrhea, where physiological, psychological, and environmental factors converge.

Moreover, modern embryology supports the idea that reproductive organs develop in close association with excretory systems (urogenital ridge), aligning with Ayurvedic ideas that *Ārtavavaha* and *Mutravaha Srotas* are often interlinked. Hence, disruptions in metabolism (*Agni*) or fat tissue (*Medodhatu*) can indirectly affect reproductive function, a concept validated by increased incidence of menstrual irregularities in metabolic disorders.

Mutravaha Srotas: Functional Integration with Excretory and Metabolic Systems

The *Mutravaha Srotas* are described as channels responsible for the formation, transportation, and excretion of *Mutra* (urine). Classical references state that these *Srotas* originate from *Basti* (urinary bladder) and *Medhra* or *Guda*, which are indicative of the pelvic and lower abdominal regions. Modern equivalents would include the kidneys, ureters, urinary bladder, and urethra. However, Ayurveda goes further to connect *Mutravaha Srotas* with *Medodhatu* and *Swedavaha Srotas* (channels of sweat), suggesting a systemic integration of fluid regulation, metabolic activity, and thermoregulation.

This Ayurvedic viewpoint offers a more nuanced understanding of disorders such as chronic kidney disease (CKD), urinary tract infections (UTIs), diabetes mellitus, and nephrotic syndrome. Ayurveda's emphasis on *Agni* and *Mala-pravritti* (proper excretion of wastes) provides diagnostic and therapeutic insights into the early derangement of urinary functions, often missed by standard diagnostics.

For instance, *Mutradaha* (burning micturition), *Mutrakruchra* (dysuria), and *Prameha* (urinary disorders including diabetes) are classified and managed based on doshic imbalances and dhatu depletion, with herbs and Panchakarma therapies that support renal function while enhancing metabolic balance.

Bridging Ayurveda and Modern Science: Toward Integrative Clinical Models

The intersection of Ayurvedic and modern anatomical interpretations fosters the development of a more integrative medical model. While modern medicine emphasizes laboratory tests, imaging, and histopathology, Ayurveda considers functional aberrations as early signs of disease, often evident through the dysfunction of *Srotas*. This could provide a preclinical window for preventive strategies.

The use of Ayurvedic tools like *Prakriti Pareeksha*, *Nadi Pariksha*, and observation of *Mutra Varna* (urine color) and *Ārtava Lakshanas* (menstrual features) allows for subtle diagnoses and personalized therapies. In contrast, modern urogenital pathology depends heavily on disease biomarkers and surgical interventions. Merging both systems allows a practitioner to tailor therapies—like *Shodhana* (detoxification), *Rasayana* (rejuvenation), and herb-based treatments—alongside modern pharmacotherapy and diagnostics.

Conditions such as metabolic syndrome, hormonal imbalances, and urogenital cancers may benefit from such integrative approaches. For example, in PCOS, where there is a combination of endocrine, metabolic, and structural dysfunctions, Ayurveda targets *Kapha-Vata Dushti*, *Medovridhi*, and impaired *Agni*, while modern medicine uses insulin sensitizers and hormonal contraceptives. Combining both can improve long-term outcomes, reduce recurrence, and enhance quality of life.

6. CONCLUSION

The exploration of **Ārtavavaha** and **Mutravaha Srotas** from both **Ayurvedic and modern anatomical perspectives** highlights the depth and relevance of classical Ayurvedic physiology in understanding female reproductive and urinary systems. Āyurveda views these Srotas not merely as physical structures, but as dynamic channels integral to the balance and function of the body. When correlated with modern anatomical knowledge—such as the uterus, ovaries, fallopian tubes, kidneys, ureters, and urinary bladder—a comprehensive and functional mapping emerges that facilitates a more holistic view of human physiology. This integrative approach offers immense potential in **diagnostics, preventive healthcare, and management of chronic conditions** like amenorrhea, dysmenorrhea, PCOS, urinary tract infections, and chronic kidney diseases. It also encourages a **systems-based approach** that respects the interrelation between bodily structures and physiological functions. To conclude, the Ayurvedic concept of Srotas—especially **Ārtavavaha** and **Mutravaha**—can significantly contribute to the **expansion of modern anatomical and clinical understanding** when studied critically and applied judiciously. However, further **evidence-based clinical research and interdisciplinary collaboration** are essential to fully realize this potential.

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