



Review Article

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REVIEW ON CONCEPT OF SROTAS

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Received on: 26/02/14 Revised on: 22/03/14 Accepted on: 28/03/14

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DOI: 10.7897/2277-4343.05246

ABSTRACT

Holistic biology of Ayurveda is based on Triguna, Tanmatra, Tridosh, Saptadhatu, Oja, Agni, Ama and Srotas. Srotas are the inner transport system of the body which provide platform for activities of other important bio-factors like three dosh, the seven dhatu, the oja, the agni etc. In Ayurvedic classics the term Srotas is used as dynamic inner transport system of body-mind-spirit organization in addition to circulatory system. Ayurvedic Acharyas have described that the entire range of life processes in health and disease depends on integrity of the srotas system which is prone to lose its integrity due to out of order lifestyle and faulty food. There is a need to study the fundamental and applied aspect of srotas in order to understand Ayurvedic biology and disease processes in depth.

Keywords: Srotas, Srotomula, poshyadhatu, dhatu parinaman.

INTRODUCTION

Ayurvedic classics proclaim “Srotomayam hi shariram” means that living body is a channel system and/or is comprised of innumerable channels which are designed as inner transport system for divergent function, gross and subtle, biological and energetic. Body-mind-spirit organization has as many as Srotamsi the number of life factors operating in the life process- Yawantah Purushe Murtimanto Bhavavisheshah Tavantevasmin Srotasam Prakara Visheshah¹. Ordinarily the word Srotas is used as a generic term indicating all the macro and micro channels and pathways operating in the living organism. The word Srotas is derived from sanskrita root- “Sru-gatau” (Sru + tasi = srotas) which means moving, filtering, flowing, leaking, secreting etc. Charak has defined it as “Sraavnata Srotamsi” means the structure through which sraavnata takes place. Chakrapani has explained that Sraavnata means sraavnata of rasadi poshya dhatu. The term Srotas means channels or systems in which some tissue is formed; some material is metabolized, secreted or transported. Charak has described that Srotamsi are channels which transport the dhatus (asthaya or poshya dhatu) which are subjected to transformation. Acharya Sushruta and Vagbhat both have compared srotas to the extremely fine passages and pores present in the lotus stem, through which rasadi poshya dhatu circulate all over the body and provide nutrition to body^{2,3}.

Synonyms of Srotas

Analysis of several of its important synonyms showed that the word srotas is used as generic term indicating all macro and micro channels and pathways operating in the living body. Following are the synonyms- Sira (vein), Dhamani (arteries), Rasayani (lymphatics), Rasavahini (capillaries), Nadi (Tubular conduits), Pantha (passages), Sthana (sites, locus), Ashayas (repositories), Niketa

(resorts), Marga (pathways, tracts), Samvrita-asamvrita (open or blind passages), Sharir chidra (body orifices, openings).⁴

Classification of Srotamsi

Suksma (subtle) - Innumerable – Body-mind-spirit system has as many as srotamsi as are the number of life factors operating in the life process. Sthula (gross) – Numerable - Bahirmukha (Aperture or natural opening)- 9 in male, 11 in females, Antarmukha – 13^{5,6}.

Characteristics of srotas

- Colour- Colour of srotas is similar to that of dhatu they carry.
- Size- Anu (atomic in size or microscopic), Sthula (Gross or macroscopic),
- Shape- Vritta (cylindrical), Dirgha (long), Pratana (reticulated)

Acharya Charaka has described thirteen major gross srotamsi simulating the major physiological systems of the body as known in conventional modern system of medicine. In addition to these gross material channels another important channel is Manovaha Srotas which carries impulses of thoughts and emotions⁷. Sthula srotas along with their mulam have been described for the purpose of the study of pathology and clinical medicine.

Mulam of srotas

Chakrapani has described Mulam as- “Mulamiti Prabhava Sthanam”, meaning thereby that Mula of a srotas is the anatomical seat of the respective srotas, the main seat of the pathology of that channel, the principal seat of manifestation of disease. The cause of morbidity of srotamsi and their manifestation, pertaining diseases has also been explained. The set of channels is apparently described as the major seat of diseases which can be

clinically examined in a patient by physician for diagnostic purposes.

Following are the major gross channels

Srotas	The Mulam
1- Pranavaha	Hridaya (Brain and heart), Mahasrotas
2- Udakavaha	Talu, Kloma (oropharynx)
3- Annavaha	Stomach, left flank
4- Rasavaha	Hridya (heart), ten dhamani
5- Mamsavaha	Ligament, skin
6- Medovaha	Kidneys, omentum
7- Asthivaha	Adipose tissue, Jaghan
8- Majjavaha	Bones, joints
9- Shukravaha	Testes, pudendum
10- Mutravaha	Urinary bladder, vankshanas (kidneys)
11- Purishvaha	Large intestine, rectum
12- Svedavaha	Adipose tissue, hair follicles
13- Artavavaha	Uterus, fallopian tubes
14- Manovaha	Hridaya (Heart and Brain)

Charak has described thirteen gross channels, seven for seven dhatu, three for mala and two for intake of nutrient substances like food, water, air and one for regulation of water⁶. No separate srotamsi has been described for three sharirika dosh as they pervade. The entire body and move through different kind of srotamsi. Byadagi P.S. has correlated Vatavaha Sira as Vatavaha Srotas, Pittavaha Sira as Pittavaha Srotas, Kaphavaha Sira as Kaphavaha Srotas and Sarvavaha Sira as Sarvavaha Srotas.⁹ Manasika guna and Atma which are beyond from the sense of perception, the entire sentient body is their vehicle and field of operation. Sushruta has described eleven pairs of srotas same as Charaka but he has left out Asthivaha, Majjavaha and Svedavaha and included Artavavaha Srotas. Sushruta has excluded Dhamni and Sira from purview of Srotas. Charak has described that they are spoken of dhamani because they pulsate, sira because they maintain the flow of rasa-rakta, as srotamsi because they permit oozing. C. Dwarikanath has explained that Hridya (heart), dhamani (arteries), sira (veins) srotamsi (capillaries) are the component of a single vascular system which regulate the proper flow of blood and nutrition supply to and clearance of waste products from sthayi dhatu¹⁰. Charaka has described srotas mula or origin and symptomatology of pathological involvement of srotamsi in nija type of diseases (idiopathic or constitutional diseases as opposed to aagantuja or traumatic). While Sushruta has described srotamsi in the context of injuries (srotoviddha) as may inflict on their mula. Thus Srotas is a multi-meaning term referring to a range of structures, functions and concepts in different context. From extreme gross to most subtle the term srotas could refer to whole body as a single complex srotas, each gross physiological system such as gastrointestinal system as one srotas, a single tubular structure like nephron, each single cell of the body or sub-cellular structures and membrane the receptor mechanism and networks, pathways carrying emotions and chetna. All these are the components of srotas system.¹¹ Swarnakar *et al.* has correlated the srotas with the complex pathways or channels of the nervous system governed by vata for carrying out the functional and physiological activities of the human body. Nerve itself is

a channel and it is spread throughout the body, like a climber plant. All the channels are governed by the flow of electrical current responsible for the development of the action potentials without which none of the fundamental activities of human will take place¹².

Functions of Srotamsi

- Ayurvedic Acharyas have described that the entire range of life processes in health and disease depends on integrity of the srotas system.
- Srotas are the inner transport system of the body which provides platform for activities of other important bio-factors like three dosh, the seven dhatu, the oja, the agni, thought and emotions etc.
- Srotamsi are not only the passage or channels for flow of various substances but also Srotamsi are specific in their functions. Each Srotas provides nutrition to their respective dhatu only with requisite quantities not others^{13,14}.
- Transformation (metabolism) of poshya dhatu occurs in srotas.
- Srotas serves as conduit through which both prasada (nutrient) dhatu as well as mala dhatu (waste product or product of degradation) are transported, as structure through the pores of which nutrient and waste product pass to and from the sthayi dhatu.
- All the dosh, dhatu and mala are dependent on srotas for their formation, transportation and destruction.

CONCLUSION

Srotamsi represent the inner transport system of the body in addition to that of circulatory System. Srotamsi indicate all macro, micro level descriptions pertaining to exchange, transportation and excretion. Srotamsi include all range of structural and functional units from gross to subtlest designed to carry specific material, molecules, messages, impulses, emotions and thoughts. Sthula srotas along with their mulam have been described for the purpose of the study of pathology and clinical medicine. The transport of biological fluids, physiological regulatory factors, nourishment of tissues, and bioavailability of medicaments depends on the integrity of Srotamsi. Srotamsi are specific to the carrier substance which they transport. This concept of srotamsi supports even the latest descriptions in contemporary science such a receptor theory in terms of their specificity and membrane biology. The srotas system plays a key role in physiology including pathophysiology and pharmacophysiology. Understanding the concept of srotamsi and srotovaiguny facilitates the Vaidya to take decisions accurately with respect to treatment and prognosis.

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Cite this article as:

Verma Vandana, Gehlot Sangeeta. Review on concept of srotas. Int. J. Res. Ayurveda Pharm. 2014;5(2):232-234 <http://dx.doi.org/10.7897/2277-4343.05246>

Source of support: Nil, Conflict of interest: None Declared