

AN INSIGHT INTO THE CONCEPT OF SROTAS- REVIEW ARTICLE

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ABSTRACT

In Ayurveda Srotas plays a major role. Acharyas explained purusha as assumed to be made of innumerable Srotas. The equilibrium of dosha, dhathu and mala maintains health. To maintain continuity in the life cycle, these bodily elements have to be continuously regulated, nourished and replenished. Srotas are the channels or inner transport system of the body which is the site for the activities of other bodily elements like dosha, dhathu, mala, agni, etc. Among these some Srotas are micro and some are macro in structure and they adopt the same colour of particular dhathu of the body to which they belong. In Ayurvedic classics, it has been described that the entire range of life process in health and disease depends on the integrity of Srotas. Therefore the present article is an attempt to study the fundamental facts of Srotas.

KEYWORDS: Srotas, channels, pathways, Ayurveda, transport.

INTRODUCTION

Ayurveda has accepted the human body to be made up of innumerable Srotas (channels)¹ which are responsible for performing all the physiological and functional activities. All dosha, dhathu and mala perform their functional activities with the help of these Srotas. It has been a practice since long, to recognize all the vyadhilaskhana. The body is divided into small units depending upon their chief function or structure. Each unit comprises of many avayavas (Organs) and each organ is made up of innumerable Srotas. Hence these units are generally called Srotas.

Ayurveda is the first medical system to announce and describe the existence of innumerable Srotas, within the human body. The term Srotas is derived from the root "Susravana" meaning to exude, to ooze, to

flow, to filter². Those from which sravana or flow of the body substances takes place or those through which the materials flow in the body are called Srotas. Thus, they are the channels or pathways of the body through which the materials needed for tissue building, nutrition and other nutrients flow from one corner of the body to the other. In other words, materials are transported through these Srotas from the place of production to the place of need.

According to Sushruta, those which carry or transport materials like Prana (Life element), Anna (Food), Vari (Water), Mamsa, Meda Dhathu are called Srotas³.

Charaka opines that there will be 'Parinamanapadyamananam' meaning undergoing transformation indicates that the channel carry such of the tissue elements as

are undergoing transformation from their previous states. The channels of circulation do not carry the sthira (Stable) dhathus but only such of the mobile dhathus are carried by them⁴.

Srotas are the complex pathways or channels of the nervous system governed by Vayu for carrying out the functional and physiological activities of the human body⁵.

The following synonyms of Srotas Sira (Vein), Dhamani (Artery), Rasayani (Lymphatics ducts), Rasavahini (capillary), Nadi (Tubular conduits), Pantha (Passages), Marga (Pathways, tracts), Sharirachidra (Body orifices), Ashaya (Repertories), Niketa (resorts), Sthanas (Sites), Samvrutsamvrutani (open / closed passages)⁶.

Structure / Characteristics

Srotas may be sthula (Gross/macroscopic), Anu (Microscopic), Vrutta (Round), Deergha (Elongated) and Pratanasadrusha (Reticulated in nature). They are like lotus stalks, through them rasa nourishes the body. The colour and form of the Srotas is similar to the dhathu they support.

Vagbhata considers two types of Srotas: Sthula (Perceptible) and Sukshma (Imperceptible). With today's technological advances, microscopic entities can be counted in sukshma Srotas, with extended perspective abilities⁷.

Charaka has very clearly said that all the biochemical molecules under metabolic process (Parinamapadyamanadhathus) are held and carried within the Srotas. These

Srotas are the functional pathways for nutritive (Prasadhakya) and non-nutritive or waste (Malakhya) molecules⁸.

Types of Srotas:

Through conceptually Srotas are innumerable, a certain number is assumed according to their specified functions. They are 13 in number according to Charaka and there are 11 pairs or 22 Srotas according to Sushrutha who called them Yogavahi.

Mainly Srotas is classified into two kinds, namely Bahya and Abhyantara Srotas

Bahya Srotas or Bahirmukha Srotas in males are 9 in number and in females it is 12 in number. 9 bahya Srotas are 2 nasa randhra, 2 karna randhra, 2 nayana randhra, 1 mehana randhra, 1 guda randhra, 1 vedana randhra. In females, 2 stana randhra and 1 rakthapatha.⁹

In addition to these gross material channels, some other important channels described are -Manovaha Srotas which carries impulses of thoughts and emotions¹⁰.

-Stanyavaha Srotas¹¹: Channels which carry stanya (Breast Milk) are called Stanyavaha Srotas.

-Shabdavaha Srotas¹²: When aggravated Vata enters shabdavaha Srotas either alone or in association with Kapha, it produces Bhadiryā

-Samjnavaha Srotas¹³: Channels which carry buddhi is called Samjnavaha Srotas .

-Swaravaha Srotas¹⁴: Channels which carry shabda is called Swaravaha Srotas .

Srotas and their moolasthan according to Charaka and Sushruta Samhita:

Sl. No	Srotas	Srotomoola	
		Charaka Samhitha Vimana Sthana 5/16	Susrutha Samhitha Shareera Sthana 9/12
1	Pranavaha Srotas (Channel carrying vital life element or air)	Hridaya (Heart), Maha Srotas (Alimentary canal)	Hridaya (Heart), Rasavahi dhamani (Artery carrying rasa)
2	Annavaha Srotas (Channel transporting food)	Amashaya (Stomach), Vama Parshwa (Oesophagus)	Amashaya (Stomach), Anna Vahi Dhamani (Artery Carrying food)
3	Udakavaha srota (Channel carrying water or controlling water metabolism)	Talu (Palate) Kloma (Thirst Area near heart)	Talu (palate), Kloma (thirst area near heart)
4	Rasavaha (Channel carrying nutritional essence)	Hridaya , dashadhamani (Major ten blood vessels)	Hridaya , rasavahi dhamani (artery carrying rasa)
5	Raktavaha (Channel carrying blood)	Yakrut (Liver) and Pleeha (Spleen)	Yakrut (Liver) and Pleeha (Spleen), Raktavahi dhamani (Artery carrying blood)
6	Mamasavaha (Channel carrying muscle tissue)	Snayu (Ligaments) Twak (Skin)	Snayu (Ligaments) Twak (Skin) Raktavahi dhamani (Artery carrying blood)
7	Medavaha Srotas (Channel carrying fat tissue)	Vrukka (Kidneys) Vapavahana(Omentum)	Kati (Wasit) Vrukka (Kidney)
8	Majjavaha(Channel carrying bone marrow or brain tissue)	Asthi (Bones) Sandhi (Joints)	NOT INCLUDED
9	Shukravaha (Channel carrying semen)	Vrushana (Testicles) Shepha (Penis)	Stana (Breast) Vrushana (Testicles)
10	Mutravaha (Channel carrying urine)	Basti (Urinary Bladder) Vankshana (Inguinal region)	Basti (Urinary bladder) Medhra (Penis)
11	Purishavaha (Channel carrying faeces)	Pakwashaya (Large intestine) Sthulaguda (Rectum)	Pakwashaya (Large intestine) Guda(Anal canal with anus)
12	Swedavaha (Channel carrying sweat)	Meda (Adipose tissue) Roma koopa (Hair follicles)	NOT MENTIONED
13	Asthivaha	Medas (Adipose tissue)	NOT MENTIONED

	(Chanel carrying bone tissue)	Jaghana (Buttock)	
14	Arthavavaha (Channel carrying menstrual blood)	NOT MENTIONED	Garbhashaya (Uterus) Arthavahi dhamani (Artery Carrying menstrual blood)

After going through these different Srotas, we can classify them into three groups

1. First three which are associated with the intake of environmental elements are Pranavaha Srotas (Carrier of life or air), Annavaha (Carrier of food), Udakavaha (Carrier of water)
2. Middle seven are the purveyors of Rasa (Plasma), Rakta (Blood), Mamsa (Muscle tissue), Meda (Fat), Asthi (osseous tissue), Majja (Bone marrow or brain tissue) and Shukra (Semen)
3. Last three channels are namely Swedavaha (Carrier of sweat), Mutravaha (Carrier of urine) and Purishavaha (Carrier of faeces)

No separate Srotas has been decribed for the shareerika dosha.

Byadagi P.S has proposed a new concept on doshavaha Srotas. Byadagi P.S has correlated Vatavahasira as Vatavaha Srotas, Pittavaha Sira as Pittavaha Srotas and Kaphavaha Sira as Kaphavaha Srotas and Sarvavaaha sira as Sarvavaaha Srotas in his article.¹⁵

Srotomoola:

Srotomoola is the area of influence, Chakradatta describes Srotomoola as the area from which Srotas evolves or arises. It is similar to root of the tree. It is also Prabhavasthana means the anatomical seat of respective Srotas .The main seat of Pathology of Srotas or are principal seat of manifestation of the diseases of that Srotas. The cause of morbidity of Srotas and their

manifestations first strikes the moolasthanas of their respective Srotas. These moolasthanas can be categorized¹⁶

- a) Utpattisthana: Seat of origin of that element (Dhathu /Mala)
- b) SangrahaSthana : Seat of storage
- c) Vahanasthana: Seat of carriage or flow of bodily elements
- d) Prabhavasthana: Anatomical seat

Function of Srotas:¹⁷

- 1) Grahana or sangrahana: Storage or collection
- 2) Sravana: secretes, oozing, discharge, exudates
- 3) Vahana: carry, conduction, transportation
- 4) Shoshana: Absorption, Assimilation
- 5) Nissarana: Elimination or excretion
- 6) Pachana: Digestion
- 7) Vivechana: Selectivity
- 8) Receptable
- 9) Diffusion
- 10) Perniation

SROTODUSHTI :¹⁸

The causes of vitiation of doshas are improper food habits and their activities. The expression of such vitiation is through the manifestation of diseases. The same causes which lead to doshadushti and dhathudushti are responsible for the vitiation of Srotas i.e. srotodushti.

SROTODUSHTI LAKSHANAS:

The main signs of the vitiation of the channels are

- 1) Atipravrutti: Increased flow or excess production of contents of the channel

2) Sanga: Obstruction or stagnation of the flow of content of the channel
 3) Siragranthi: Appearance of nodules in the channel

4) Vimargagamana: Diversion of the flow of the contents to an improper channel or flow in the path other than its own

Sl. No	Srotas	Srotodushti hetu	Srotodushti lakshana	Srotoviddalakshana	Chikitsa
1	Pranava ha	Dhathukshaya, vegasandharana, roukshya, vyayama done by Kshuditha, Sahasa	Atisrusta, Atibadda, Kupitha, Alapalpa, Abhikshana, Sashabdashoola, Uchwaasa, shwasa	Vinamana, Akroshana, Mohana, Bramhana, Vedana, Marana	Shwasa Chikitsavat
2	Udakavaha	Ushnaaharavihara, Ama, Bhaya, Atishushka anna seva, madyapaana, Trishna Avarodha	Jihwa, Talu, Oshta, Kanta, Kloma Shosha, Atipipasa	Pipasa, Sadhyomarana	Trishna Chikitsavat
3	Annava ha	Atimatra, Akala, Ahitha bhojana, Agnivaishmaya	Anannabhilasha, Arochaka, avipaka, Chardi	Adhmana, Shoola, annadwesa, chardi, pipasa, marana	Ama dosha nashaka chikitsa
4	Rasava ha	Guru-Snigdha and atimatra ahara, Adika chinta	Aruchi, aasya vairasya, urasajnyata, hrullasa, angamarda, gourava, tandra, jvara, tama, paandu, sada, krushangata, akala palithya	Shosha, marana and pranavaha srotovida laskhana	Jwara chikitsa and dashavidha
5	Raktavaha	Vidahiannapaana, snigdha, ushna, dravaahaara, ati aatapa, vaayu seva	Kushta, visarpa, pidaka, raktapitta, asrugdara, gudapaka, medrapaka, mukha paaka, pleeha vridhi, vidradhi, gulma, kamala, vyanga, neelaka, pipeelika, dadru, charamadala, shwitra, paama, ashru mandala	Shyavangatha, jvara, daaha, pandutha, raktanetrata, shonitha agamana	Virechana, upavasa, raktamokshana, rakthapittahara chikitsa

6	Mamsa vaha	Abhishyandha, sthula, guruaharase vana, sleeping day time after intake of food	Adhimamasa, arbuda, mamsakeela, gala shalooka, gala shundi, putimamsa, alaji, galaganda, gandamala, upajihwika	Shwayathu, mamsashosha, siragranthi, marana	Shastra, kshara, agnikarma, shodhana karma
7	Medovaha	Medayukta mamsa ati seva, avyayama, diva swapna, varuni atisevana	Atisthula and atikrusha (Ninditha Purusha). Prameha poorvarupa	Swedagamana, snigdhangatha, talushosha, sthula shophatha, pipasa	Stuhla, guru apatarpana, krusha, laghu santarpana
8	Asthivaha	Vyayama, ati sankshobha, asthi ati vighatana, vaatala aahara-vihara	Adhyasthi, adhi danta, dantashoola, asthibedha, asthi shoola, vivarnatha, kasha, loma, naka, shmashru dosha	NOT MENTIONED	Panchakarma Tiktha ksheera sarpi basti
9	Majjavaha	Utpeshana, atyabhishyandha, abhighata, prapedana, viruddha ahara-vihara	Parshwaruk, bhrama, muurcha, tama darshana, sthulamoolayuktha arunshi on parva	NOT MENTIONED	Swadutiktha bhojana, vyayama, shodhana
10	Shukravaha	Shukravegaavarodha, akalaayonimaithuna, atimaithuna, shastra, kshara, agni karma	Klaibya, aharshana, the progeny may be rogi, alpayu, kleeba, virupa, garbhasrava, garbhapaatha	Kleebatha, shukrachirath praseka, rakta-shukratha	Swadutiktha bhojana, vyayama, vyavaya, shodhana
11	Mutravaha	Udaka, bhakshya, streesevana in mootravegakaala, mootravega avarodha, ksheena shareera, mootra srota aghata	Atisrushtam, ati baddam, prakupitham, alpalam, abhikshanam, bahalam, sashula mootrata	Mootranirodh, stabdhamedhata, anaddabasthi	Mootrakrichr avath chikitsa
12	Pureeshavaha	Pureesha vega avarodha, atibhojana, ajeerna,	Kruchra, alpa shashabadda shoola, atidrava, atigrathitha,	Anaha, durgandhitha, grathitantrata	Atisaravat chikitsa

		adhyashana, krusha, durbalagni	atibahula pravrutti mala		
13	Swedav aha	Vyayama, atisantapa, sheetoshna akarma sevana, krodha, shoka, bhaya	Asweda, atisweda, parushya, ati shlakshangatha, paridaha, lomaharsha	NOT MENTIONED	Swarabheda chikitsavat
14	Arthava vaha	NOT MENTIONED	NOT MENTIONED	Vandhyatwa, maithuna asahishnutha arthavanasha	NOT MENTIONED

DISCUSSION

Ayurveda has given importance to Srotas for every Murthiman bhavas. Srotas are the channels different from sira and dhamani, which carries nutrients to the body organs and widely spreads all over the body. It also carries waste materials for the excretion from the body. Without Srotas, the physiological functions of the human body will not be possible.

Every Srotas has two moolasthanas and function of these moolasthanas is to produce the elements which flow through the srotas. If moolasthana is defective, the srotas will be defective. But if srotas is defective, does not mean that moolasthana will also be defective. Pathological changes in the body are due to Sroto dushti, Srotosanga. Any imbalance in the srotas causes disease, so for the proper development of the human body, a proper functioning of Srotas is a must.

CONCLUSION

Srotas is merely a hollow channels or space. According to Charaka Acharya "Srotomayamayampurusha" i.e they have seen the body in the form of Srotas. Human body consists of Multiple and innumerable Srotas. Srotas indicate all Macro and micro level descriptions pertaining to the

exchange, transportation and excretion taking place in the human body. Srotas along with their moolasthanas have been described for the purpose of the study of pathology and clinical medicine. Understanding the concept of Srotas and Srotovaigunya facilitates the vaidya for treating diseases. As long as Srotas perform their normal function, body would be free from diseases.

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