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Understanding of *Srotas* and its Importance in Pathophysiology

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ABSTRACT

The concept of *srotas* has been described vividly and scientifically in *Ayurvedic* literature. According to Charakacharya, *srotas* is a functional unit by which *sravana* occurs. *Srotas* are the systems that carry or circulate the *Doshas* and *Dhatu* to the various organs. In the process of circulation, the *Dhatu* are transformed from one after the other dhatu (*Rasa* to *Shukra*). Each *Dhatu* has two aspects i.e., nutrition to the first dhatu and subsequently to the next. Each *Srotas* has a *Srotomoola*, a *srotomarga* (passage) and *srotomukha* (mouth or opening). The abnormality of this system leads to physiological states and likewise, the impairment of their integrity leads to pathological state. A healthy *srotas* is responsible for good health. Structural or functional abnormality leads to manifestation of diseases.

KEYWORDS

Dosha, Dhatu, Srotas, Srotodushti



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INTRODUCTION

The word *Srotas* has been derived from Sanskrit language “stru-strabane” dhatu, which has various meanings - filtration, permeation, exudation, to move, to flow and oozing. The term *Srotas* means a path, channel or space. *Srotas* are the innumerable channels in the body designated to carryout various bodily functions. *Srotas* are innumerable in number. *Srotas* are those, which carries *Doshas* and *Dhatu* to different sites of body. *Rasad rakatm tato mamsam mamsan medaha medan asthicha* - these verses explains the *uttarottara dhatu poshana* in the *srotas* i.e., regular conduction of the nutrients for the nourishment and production of *dhauts*. Each *Dhatu* has two aspects i.e., nutrition to the first dhatu and subsequently to the next. *Srotas* micro channels are not only responsible for the dispensing of the food to different tissues of the body but also involved in removal of the waste products.

SYNONYMS OF STOTAS :

Panthana, marga, Sira, Niketa, Dhamanis, Rasayani, Rasavahini, Nadi, Ashaya, Sthana, Marga, Chidra.

GENESIS OF SROTAS:

Srototpatti takes place during intra-uterine life. *Vayu mahabhoota* and *Agni*

Mahabhoota are mainly responsible for *srototpatti*.

CHARACTERESTIC OF SROTAS :

Varna: *Varna* of *srotas* is similar to that of *Dhatus*. *Srotas* generally takes the color of respective *dhatu* which transport through it.

Pramana: *Anu and Sthula*

Akriti: *Vritta* (cylindrical), *Dhirga* (long), *Pratana* (reticulated)

CLASSIFICATION OF SROTAS :

Srotas can be classified on following basis:

1. According to number:

- Numerable
- Aparisankhya - Innumerable

2. According to perceptibility:

- Drushya* – *Sthula*- (perceptible)
- Adrushya* - *Sukshma* - (imperceptible)

3. According to *adhishtana*:

- Sharirika*
- Manasika*

4. According to *sthanabheda*:

- Bahirmukha* (opening outside)
- Antarmukha* (opening inside)

According to Charaka *Abhyantara srotas* is 13 in number.

According to Sushruta , *Bahya srotas* in male is 9, whereas in female is 12

& *abhyantara* is 11.

According to Sharangadhara, *Bahya srotas* in male is 10 and female is 13.



The *Mula sthana* refers to the point of origin. The *Mula sthana* is the main seat of *Srotas*

which plays major role in the pathological conditions.

Sl. No.	<i>Srotas</i>	Acco. to Maharshi Caraka	Acco. to Maharshi Suśruta
1	<i>Pranavaha-</i>	<i>Hridaya, Mahasrotas</i>	<i>Hridaya, Rasavahini Dhamanī</i>
2	<i>Udakavaha</i>	<i>Talu, Kloma</i>	<i>Tālu, Kloma</i>
3	<i>Annavaha</i>	<i>Aamashaya, Vamaparshava</i>	<i>Āmāśhaya, Annavaha Dhamanī</i>
4	<i>Rasavaha</i>	<i>Hridaya, Dasha Dhamanis</i>	<i>Hridaya, Rasavaha Dhamanī</i>
5	<i>Raktavaha</i>	<i>Yakrit, Pleeha</i>	<i>Yakrit, Plīhā, Raktavaha Dhamanī</i>
6	<i>Mamsavaha</i>	<i>Snayu, Twak</i>	<i>Tvacā, Snāyu, Raktavaha Dhamanī</i>
7	<i>Medovaha</i>	<i>Vrikka, Vapavhana</i>	<i>Vrikka, Kaṭī</i>
8	<i>Asthivaha</i>	<i>Meda, Jaghana</i>	Not considered
9	<i>Majjavaha</i>	<i>Asthi, Sandhi</i>	Not considered
10	<i>Shukravaha</i>	<i>Vrishana, Shepha</i>	<i>Vṛṣaṇa, Stana</i>
11	<i>Mutravaha</i>	<i>Basti, vankshana</i>	<i>Vasti, Medhra</i>
12	<i>purishavaha</i>	<i>Pakwashaya, guda</i>	<i>Pakwashaya, guda</i>
13	<i>Swedavaha</i>	<i>Medas, roma Koopa</i>	Not considered
14	<i>Artavavaha</i>	Not considered	<i>Garbhashaya, Ārtavavaha dhamanī</i>
15	<i>manovaha</i>	<i>Hridaya</i>	Not considered

Etiological factors for vitiation of *Srotas*:

Ahara - viharas which have *samana gunas* of *Doshas* and *viruddha gunas* of *Dhatus* are responsible for the *sroto vaishamyā* or *sroto dushti*. *Ahitakara ahara -vihara*, which aggravates *Vatadi doshas* and the person who is not following the *ashta vidhi ahara visheshayata* (rules and regulations of eight folds of dietary principles) leads to *srotodushti*. For example, day time sleep and fatty foods which aggravates *meda dhatu* and causes vitiation in them in spite of having identical properties.

Signs of the vitiation of *Srotas* i.e., *Srotodushti* :

1. Atipravritti : The word *atipravritti* means excessive flow. When the *srotodushti* occurs by *dosha*, it leads to

pathological changes that cause *atipravritti*. E.g. *Artava vridhi* (excessive production of *artava*), *prameha* (excess urination), rapid emptying of *amashaya* and *pakwashaya* in *atisara*.

2. Sanga: The term *sanga* means obstruction/retention or holding up leads to *srotas* affliction. It cannot perform its routine function of *sravanam*. The flow through respected *srotas* gets obstructed and causes various diseases. Eg. In *jwara srotorodha* due to *Ama*.

3. Sira Granthi : It means formation of glandular structure or nodular structure which is not physiological.

4. Vimarga gamana : It means flow of *doshas* in channels other than its own pathway.



Eg., in *shotha vimargagamana* of *udaka* & *in raktapitta vimargagamana* of *rakta*.

Understanding an idea of *Srotas* in Contemporary Science View :

Anusrotas at cellular level i.e., the cell membrane permits only some selective substances and bars other substances. The nutrients gets into the cell through the cell membrane. The metabolic waste products of the cell are expelled out through the cell membrane. The gaseous exchange process occurs through the cell wall, oxygen passes inside the cell from blood while carbon dioxide comes out of the cell. So, at the fundamental cellular level *anusrotas* performs all its functions. The abnormality of which leads to pathology. Likewise at the level of *sthula srotas*, for example *Annava* *srotas*, all the physiological functions e.g. deglutination, digestion, secretion, absorption, excretion are carried out routinely in normalcy. But if functional integrity is hampered due to vitiated doshas, all the functions are disturbed. There is *srotovaigunya* at the site of *dosha-dushya sammurchhana* which initiates disease process. Defective *srotas* of the body leads to manifestation of diseases. So, defects of *srotas* must be identifies quickly and health status has to be resumed.

Pathophysiological significance of *Srotas*:

Srotas are concerned with the metabolic states of their respective dhatus through various communicating mechanism processes. *Charaka Acharya* says '*srotas*' acts as *ayanmukhas* to the *mala* and *Prasada* bhagas of *dhatu*. *Ayana* is taken from *en-gatou* root, which means, to move, to pass. Which means, through which passage of the entities takes place.

Disease manifestation occurs in the body as a result of *Srotas* as a site for disease. *Srotas* is a processing unit in which function of biotransformation of previous *dhatu* into next *dhatu* takes place. Manifestation of a disease in the body as a result of the defective *srotas* favours the *dosha - dushya sammurchhana* and leads to formation of various disorders. All pathological lesions either acute or chronic have their origin in the *Srotas*. *Agnidushti* or *Agnimandya* of the cells that compose the *Srotas* lead to *Srotovaigunya* or functional disturbance of the *Srotas*, which may be followed by structural change in them, may in turn lead to *Srotorodha* and brings about an interaction between *Dosha* and *Dushya* at the site of defect or *khavaigunya*.

DISCUSSION

Srotas is a fundamental unit in which function of biotransformation of previous *dhatu* into next *dhatu* takes place. Disease



manifestation occurs in the body as a result of the defective *srotas* favoring *dosha - dushya sammurchhana* occurs in *srotas*. After knowing the factors causing *srotodushti*, the best method is to prevent factors responsible for *srotodushti*. So, 'Prevention is better than cure'- *Nidana parivarjana* is the method by which 'swasthasya swasthya' can be achieved, which can play a key role in maintenance of homeostasis.

CONCLUSION

Present article emphasizes on better understanding on concept of *srotas*. The article throws light on understanding the functions carried out by *srotas* in physiological conditions, its *mulasthanas*, causes of *srotodushti*, its characteristics and clinical importance of *srotas*.

The role of *Srotas* in the disease manifestation is explained very widely in *Ayurvedic* texts. Structurally, the *Srotas* are the hollow channels spread within the whole body to act as a transport system for the fulfillment of nutritional needs. Before treating a patient, an awareness about the knowledge of *srotas* is very much required i.e., i) *Utapatti Sthāna* (origin point of view), ii) *Vahana Sthāna* (related with conduction), iii) *Naidanika Drshtikona* (diagnostic point of view), v)

Chikitsatmaka Drishtikona (treatment perspective).



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