



ANATOMICAL PERSPECTIVE ON VARIOUS *SROTAS*:

AN AYURVEDA REVIEW

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Abstract

Ayurveda described several concepts related to the physiological and anatomical perspectives of human body and concept of *Srotas* is one of them. The *Srotas* are channels of body present in large number and plays major role towards the transportation and elimination of biological materials inside the body. As per Ayurveda *Acharyas* innumerable *Srotas* make a transporting system of body which helps to maintain balances of *Dosha*, *Dhathu* and *Mala*. *Srotas* are micro channels of body, some of them are macro in structure, they possess colour of *Dhathus* transporting through them. *Srotas* mainly perform functioning of *Grahana*, *Sravana*, *Vahana*, *Shoshana*, *Nissarana* and *Vivechana*, etc. *Srotas* functions related with their locations and distribution inside the body, therefore anatomical aspect play important role towards the physiology of *Srotas*. The disturbed structural and anatomical abnormalities of *Srotas* can lead several health issues. The knowledge of anatomical aspect of *Srotas* is important to understand their physiology and involvement in disease pathogenesis, considering this present article explains anatomical perspective on various *Srotas*.

Keywords: *Ayurveda, Srotas, Channels, Anatomy, Transportation*

Introduction

Ayurveda texts described presence of innumerable *Srotas* (micro channels) inside the body which regulates enormous functioning of body. *Srotas* helps to conduct functions related to the *Dosha*, *Dhathu* and *Mala*. The organs of body nourishes by *Srotas* and these channels also facilitate elimination of waste thus detoxify body. Transportation is main function of *Srotas* including filtration and diffusion. *Srotas* helps in tissue building, metabolism, digestion, assimilation and absorptions of essential bio-materials. *Srotas* facilitate transportation of *Prana*, *Anna*, *Vari*, *Dhathu* and *Mala*, etc [1-4].

General Structure of *Srota*:

Structurally *Srotas* are gross/macrosopic (*Sthula*), microscopic (*Anu*), round (*Vrutta*) and elongated (*Deergha*), etc. in nature. They can be regarded as like lotus stalks which circulates *Rasa* to nourish body. The *Sthula Srota* is perceptible while *Sukshma Srota* is imperceptible. *Srotas* helps to maintain continuity in life cycle, the micro and macro structure of *Srota* support their specific functions. *Srotas* are tubular, large or small, straight or reticular in shape.

Number of *Srota*:

Charaka described 13 *Srotas* and *Sushruta* called them *Yogavahi* as 11 pairs of 22 *Srotas*. *Srotas* are mainly two types; *Bahya* and *Abhyantara Srotas*, there are 9 *Bahya Srotas* present in male and 12 in female. *Nasa Randhra*, *Karna Randhra*, *Nayana Randhra*, *Mehana Randhra*, *Guda Randhra* and *Vedana Randhra* are types of *Bahya Srotas*, the *Stana randhra* and *Rakthapatha* are extra *Srotas* in females.

Types of *Srota*:

The specific *Srotas* meant for particular purpose i.e. *Manovaha Srotas* carries thoughts and emotions, *Stanyavaha Srotas* carry *Stanya*, *Samjnavaha Srotas* carries *Buddhi* while *Swaravaha Srotas* carry *Shabda*.

The other classification described three major category as *Pranavaha Srotas* which carries life or air, *Annavaha Srota* carries food and *Udakavaha Srota* carries water. The seven other types of *Srota* named accordingly to the materials carried by them; *Rasavaha*

Srota, *Raktavaha Srota*, *Mamsavaha Srota*, *Meda vaha Srota*, *Asthivaha Srota*, *Majja vaha Srota* and *Shukra vaha Srota*. The three other channels also described as *Swedavaha Srota* which carries sweat, *Mutravaha Srota* carries urine and *Purishavaha Srota* carries faeces [4-7].

Srotomoola

Srotomoola is area from which *Srotas* arises as like root of tree, the term *Prabhavasthana* described for anatomical seat of respective *Srotas*. The determination of *Moolasthan* of *Srotas* involves some logical points as described in **Figure 1**.

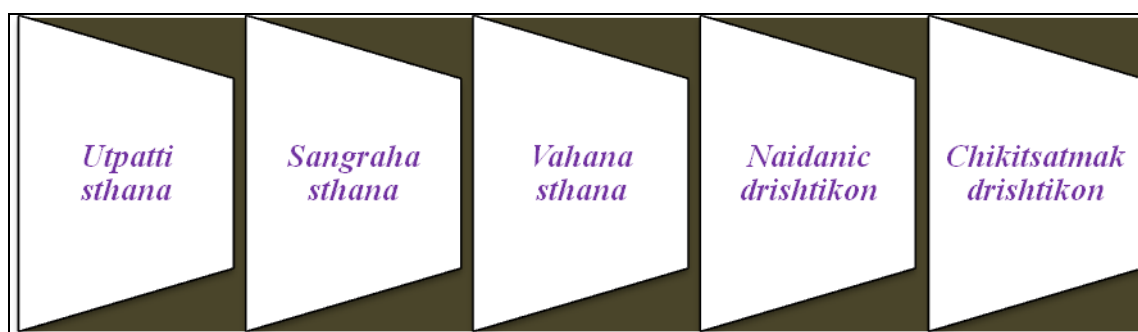


Figure 1: Various aspects related to the *Moolasthan* of *Srotas*

As depicted in Figure 1 *Utpatti sthana*, *Sangraha sthana*, *Vahana sthana*, *Naidanic drishtikon* and *Chikitsatmak drishtikon* are major view related the *Moolasthan* of *Srotas*. *Utpatti sthana* is *Moolasthan* which resembles origin point of *Srotas*, *Sangraha sthana* is *Moolasthan* related with storage of *Srotas*, *Vahana sthana* is *Moolasthan* related with conduction of *Srotas*, *Naidanic drishtikon* is *Moolasthan* associated with diagnostic view of *Srotas* and *Chikitsatmak drishtikon* is *Moolasthan* associated with clinical view of *Srotas*.

Moolasthan of *Srotas* can be divided into two categories; *Sthaniya niyantrak* and *Pramukha niyantrak*, *Sthaniya niyantrak* indicates *Srota* as local controller while *Pramukha niyantrak* indicates *Srota* as unique controller. Local controller primarily controls their corresponding *Srotas* i.e. *Dashadhamani* and *Hridaya* are local controller for *Rasavaha srotas* while unique controller can regulate *Moolasthan* of all *Srotas*. *Susruta* considered *Dhamanis* as *Moolasthanas* of *Srotas*, but he not considered *Siras* as *Moolasthan* of *Srotas*. However *Susruta* not considered *Dhamanis* as *Moola sthanas* of *Medavaha*, *Mutravaha*, *Areudakavaha* and *Purishavaha Srotas*, etc.

The Moolasthan of some Srotas as per their origin and distribution are as follows:

- *Mula of Anna Vaha Srotas is Amashaya and Anna vahi Dhamanie*
- *Mula of Prana Vaha Srotas is Hridaya and Rasa vahi Dhamanie*
- *Mula of Rasa Vaha Srotas is Hridaya and Rasavahi Dhamanies*
- *Mula of Mamsa Vaha Srotas is Snayu and Rakta Vahidhamaniya*
- *Mula of Rakta Vaha Srotas is Pliha, Yakrit and Rakta vahi Dhamanies*
- *Mula of Artava Vaha Srotas is Artavavahi dhamanies and Garbhashaya.*

Anatomical Perspectives of Some Important Srotas:

1. Pranavaha srotas

The *Hridaya* and *Rasavahini dhamani* are considered as *Moola sthanas* of *Pranavaha srotas*. Vessels which carry nutrients fluid and oxygen considered as *Rasavahiniya dhamanis*. This channel is responsible for respiration and circulation of *Vayu* throughout the system. The *Prana* provides energy to the living system therefore this *Srotas* is considered important for regulating all other physiological activities of body.

2. Annavaha srotas

Sushruta considered *Amashaya* and *Annavahini dhamani* as *Annavaha srotas*; this system carries *Ahara* and essence of *Ahara*. This *Srotas* nourishes body and helps in process of digestion and metabolism. *Annavaha dhamanis* are blood vessels related to the stomach which involves in the nourishment of body.

3. Rasavaha srotas

The *Mula* of *Rasavaha srotas* is *Hridaya* and related *Dhamanis* which are 10 in numbers. As per modern science these *Dhamanis* (arteries) are right coronary artery, left coronary artery, superior vena cava, inferior vena cava, pulmonary trunk and aortas. The *Dhamanis* which carry *Rasa* are called as *Rasavahini dhamani* which play important role for transporting essence of *Dhatu*s that helps in body built up.

4. Raktavaha srotas

The distribution of *Raktadhatu* is done by *Raktavaha srotas*, this *Srota* carry *Raktadhatu* to the pumping place from its origin sites and finally to the other parts of body.

Yakrit and *Pliha* are main root of *Raktavaha srotas*. Some texts described *Yakrit*, *Pliha* and *Raktavahi dhamaniya* as root of *Raktavaha srotas*.

5. *Mansavaha srotas*

The *Snayu* and *Twak* are *Moola* of *Mansavaha srotas*, as per *Acharya sushruta* the *Moola* of *Mansavaha srotas* are *Snayu*, *Twak* and *Raktavahi dhamanis*.

6. *Artavavaha srotas*

Artavavaha srotas present in females, *Garbhashaya* and *Artavavahi dhamani* are root of *Artavavaha srotas*. This *Srotas* if not work properly then various pathological conditions may arises i.e. infertility, dysmenorrhea and dysperunia. This *Srotas* related with formation and movement of ovum and menstrual fluid. The *Beejrupi artava* comes from ovary and moves to the *Garbhashaya*. Accumulated *Artava* drawn towards the vagina by *Vata* through *Dhamanis*, this *Dristartava* bleed out every month in the form of menstrual blood [8-10].

Conclusion

The *Dhamanis* mainly act as *Moola sthana* of *Srotas*, however *Dhamanis* are not considered as *Mula sthanas* of *Medavaha*, *Mutravaha*, *Udakavaha*, *Purishavaha* and *Sukravaha Srotas*. Structurally *Srotas* are *Sthula*, *Anu*, *Vrutta* and *Deergha* in size and shape. As per *Charaka* there are 13 *Srotas* in number while *Sushruta* mentioned 22 *Srotas*. *Stana randhra* and *Rakthapatha* are extra *Srotas* present in female only. The anatomical perspective of *Srotas* requires consideration of some points including *Utpatti sthana*, *Sangraha sthana*, *Vahana sthana*, *Naidanic drishtikon* and *Chikitsatmak drishtikon*. The *Moolasthan* of *Anna Vaha Srotas* is *Amashaya* and *Anna vahi Dhamanie*, *Moolasthan* of *Prana Vaha Srotas* is *Hridaya* and *Rasa vahi Dhamanie*, *Moolasthan* of *Rasa Vaha Srotas* is *Hridaya* and *Rasavahi Dhamanies* while *Moolasthan* of *Rakta Vaha Srotas* is *Pliha*, *Yakrit* and *Rakta vahi Dhamanies*.

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