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Pranavaha Strotas: A Conceptual Analysis with Special Reference to Modern Anatomy

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Abstract

Rachna Sharir is a medical science's foundational subject. Hence, concept of *Sharir* should be cleared to all. *Ayurveda* offers a number of *Sharir* concepts that need to be interpreted in light of contemporary thought, *Strotas* is one of them. *Acharya Sushrut* had defined *Strotas* in terms of their surgical aspect, whereas *Acharya Charak* had explained them in terms of their medicinal point of view. *Pranavaha Strotas* is first *Strotas* and considered as an important *Strotas*. The *Pranavaha Strotas* are those that distribute prana throughout the body. The concept of this *Strotas* is discussed, and how it is related anatomically and physiologically to the body is elaborated in this article by studying this *Strotas Mulasthanas*, *Vidha Laxanas & Vahana*, as well as by examining concern reference regarding *Pravaha Strotas*.

Keywords: *Ayurveda, sharir, strotas, pranavaha strotas*

Introduction

Ayurveda described many anatomical structures of body along with their physiological functions, *Strotas* are one of them. It is said that '*srotomayam hi purusha*' that means human body is made up of so many *Strotas*. *Strotas* are the channels or pathways that serve as the passage or transport system of various *Dhatus* that are undergoing the process of metabolic transformation.

'*Yawantah Purushe Murtimanto Bhavavisheshah Tavantevasmin Srotasam Prakara Visheshah*'^[1]

Strotas is used as a term indicating all the macro and micro channels and pathways operating in the living organism.

The *Strotas* are the channels through which conduction of the respective nutrients to their respective destination is possible. The maintenance of existed bodily structure are only possible because of *Strotas*. So there is a need to understand the basic anatomical and applied aspect of *Pranavaha Strotas*.

Definition of Strotas

Strotas word is formed from '*Sra Sravane*' It means to flow, to ooze, to exude, etc.

Sravanata Strotansi (ch.su.30/12): According to *Acharya Charaka*, It is the passage or structure through which substances are going to flow.

According to *Chakrapani Sravanata means* the channels which passes the *Poshaka Dhatus* are called *Strotas*.

Sravanaat rasadi sraava pathatvaat srotaamsi. (Gangadhar) Gangadhara explains that the pathways through which *rasa, rakta* etc. tissues are transported or the pathways through which the tissue flow are called *Strotas*.

As per *Acharya Sushrut-A Strotas* is tubular structure or fine passage with pores which initiate the flow of the fluid material or *Poshak Dhatu* from the inner of the body to its outer opening^[2].

Panchabhautikatva of Strotas

Strotas are *Panchabhautika* with predominance of *Aakash Mahabhoota*.

Types of Strotas

Acharyas described two types of *Strotas*

- Bahirmukha Strotas (Drashya Strotas)*
- Antarmukha Strotas (Adrashya Strotas)*

As Per Charaka

- Bahirmukha strotas-9 in male, 12 in females*
- Antarmukha strotas-13*

As Per Sushruta^[3]

- Bahirmukha Strotas-9*
- Antarmukha Strotas-11 pairs that is 22 strotas.*

He had not considered *Asthivaha, Majjavaha* and *Swedavaha Strotas*.

As Per Vagbhatta^[4]

- Antarmukha Strotas-13*

Vagbhatta only give description of *Antarmukha Strotas*.

Acharya Charaka and *Acharya Sushruta* both give first priority to *Pranavaha Strotas*.

Pranavaha Strotas

Pranavaha Strotas; the *Strotas* that carry or transport *Prana* within the body are termed as *Pranavaha Strotas*. They are the channels that carry the vital life elements or air (oxygen) and transport it to other body parts or organ system of the body.

The factor that gives life to the body is called *prana* in modern it is correlated with oxygen; oxygen is a very important factor for life process which is inhaled by respiration; the *Strotas* which carry this *Prana* are called *Pranavaha Strotas*.

The *Chaitanya* or *Jivana* giving matter is called *Prana*; the *Vahan* or transfer or conduction of this *Prana* through all structures of the body is carried out by *Pranavaha Strotas*.

According to *Acharya Sushruta* the *Pranavaha Strotas* are two in number.

तत्र प्राणवहे द्वे, तयोर्मुलं हृदय रसवाहीन्यश्च धमन्यः ॥

Mul Sthana According to Acharya Sushruta ^[5]

- *Hrudaya*-Heart
- *Rasa vahi Dhamni*-The vessels or channels or terminal branches of arteries which transport nutrition to various parts of the body.

Dushti Lakshanas According to Acharya Charaka ^[6]

प्रदुष्टानां खल्वेषामिदं विशेषज्ञानं भवति, अतिसृष्टमतिबद्धं कुपितमल्पामभीक्षणं वा सशद्वशूलमुच्छ्वासन्तं दृष्ट्वा प्राणवहान्यस्य स्त्रोतांसि प्रदुष्टानीति विद्यात् ॥

Atis srushta shwasam-too long (prolonged) breathing

Ati baddham-too short breathing (short of breathe)

Kupitam shwasam-difficult breathing

Alpam alpam shwasam-frequent and interrupted/intermittent breathing

Abheekshnam shwasam-highly disturbed breathing patterns looking scary

Sa shabda shwasam during breathing abnormal sounds

Sa shula shwasam-painful breathing

Most of the *lakshanas* explained in the *Dushti* of *Pranavaha srotas* are related to the respiratory system so it has been related to respiratory system. Therefore concept of *Pranavaha srotas* also is understood in the light of these facts.

Material and Methodology

For this article, the basic and conceptual materials have been collected from the Ayurvedic classics i.e. *Brihatrayee* and *Laghutrayee* mainly the *Susruta Samhita*, *Charak Samhita* and other classics with the available commentaries. There are so many diversities even in the classical text of Ayurveda in the context of *Pranavaha Strotas*.

According to *Acharya Charak*⁷, the *Hridaya* and *Mahasrotas* are the *Moolasthana* of "*Pranavaha srotas*". The symptomatology described by *Charak*, regarding *Pranavaha Strotas* when it gets *Dushta*, appear to be supportive of Respiratory system of the body. The diseases like *Swasa* and *Hikka* have their origin from the *Moolasthana of Strotas*. The vitiation of *Pranavaha Strotas* is managed by the line of treatment of *Kasa* (cough), *Shwasa* (breathing disorder). The organs described in *Pranavaha srotas* according to *Gangadhar* commentary are *Hridaya* and *Vaksha* (Phupphusa i.e. lungs.). *Chakrapani* says the passage through which "*vayu*" in terms of "*pranavaha*" passes through the body is known as *Pranavaha srotas*.

From the above description of *Acharya Charak* anatomical and physiological consideration of *Pranavaha Strotas* is seems to be supportive to respiratory system of body that is lungs, bronchi, bronchioles etc.

In *Sushruta Samhita*, the description of *Pranavaha Strotas*, its number, origin and location are somehow different than the description available in the *Charak Samhita*. According to *Sushruta*, there are two *Pranavaha Strotas* originating from *Hridaya* (heart) and *Rasavahini dhamanis*. In connection with *Rasavahini dhamanis*, there is difference of texts, where we find *Pranavahi Dhamanis* in its place. Considering this *Pranavahi Dhamanis*, Dr B.G. Ghanekar states that there are just "*Swasavahinis*" representing the bronchi of respiratory tract. In this view these are the *Pranavaha srotas* in to which *Pranavayu* gets in. Almost all authors resembles *Pranavaha Strotas* with respiratory system.

Respiratory System

Respiratory system is formed by nose, nasal cavity, pharynx, larynx, trachea, bronchus, bronchioles and finally alveolar sac. As air inhaled through the upper airway filtered in the nose heated to body temperature, Then air goes to glottis and glottis to trachea, major bronchus, secondary; tertiary bronchioles and alveoli. The acinus is gas exchange unit of the lung and comprises branching respiratory bronchioles and clusters of alveoli here filtered moistures heated air makes close contact with pulmonary capillaries and oxygen up take and carbon dioxide excretion occurs within the alveoli.

Transport of gases between lungs and body tissue is function of blood, when oxygen enters the blood certain physical and chemical changes occurs that aids in gas transport and exchange. The change of respiratory gases between lungs and blood takes place by diffusion across alveolar and capillary walls. Collectively the layer through which the respiratory gases diffuse are known as alveolar capillary membrane.

The heart act as two separate pumps operating side by side. The right heart generate circulation to lungs and left heart feeds rest of body. The right atrium drains deoxygenated blood from superior and inferior vena cava and discharges blood in to left atrium and in to left ventricle through bicuspid valve.

"*Tatra pranvahanam hrudayam mullam mahastrotasam khavisheshmedh Vishehsh bhavati charak*".

Charak consider heart as the *Mool Sthana of Pranavaha Strotas* which is correlated with above discussion, on addition when this *Strotas* is not working properly then special signs and symptoms of respiratory disorder like more expiration rate, whistling sounds at the time of respiration, painful breathing and tightening of chest also seen.

Sushruta commentator *Dhalan* says that

"*Tatra vidhasaya krishnavenamma mohan bramhan vepenani maranam vaa bhavati*".

When this *Strotas* hampers then following symptoms are seen *Kroshan* means to cry, *Vinaman* means bending forward, *Bramhana* means vertigo, *Mohana* means unconsciousness, *Vepenani* means tremors of the body and lastly death occurs.

Discussion

Concept of *Srotas*, is still relevant in the present scenario and might give further insights if revisited. *Strotas* indicate all macro, micro level descriptions pertaining to exchange, transportation, and excretion.

Pranavaha Strotas is important & main *Strotas* of the body. *Hridaya*, *Mahasrotas* and *Murdha* are *Moolasthana of Pranavaha srotas* and *Rasavaha dhamani* are involved in transportation of *pranavayu* in the body.

Respiratory system of the body includes nose, nasal cavity, pharynx, larynx, trachea, bronchi, bronchioles, including lungs. *Prana* here is considered as oxygen, air inhaled within the body through external nares travel through respiratory system and carry oxygen and carbon di oxide to the lungs. From lungs gases is transported to heart and after thar oxygen is supplied to all body cells.

Gaseous exchange and transportation of *Prana* all over the body is done by respiratory system and heart. Therefore they both are considered as Anatomical and Physiological consideration with *Pranavaha Strotas*.

The gases path and exchange occurs nose to alveoli, alveoli to heart by pulmonary veins, heart to all cells of body by arteries, all body cells to again heart with the help of veins. This total path includes in *prajavahini/Rasavaha dhamani*.

Conclusion

From the above discussion it can be concluded that *Pranavaha Strotas* is one of the most important strotas. Acharya Charaka and Sushruta both described *Pranavaha Strotas* very nicely, *Hridaya, Mahastrotas, Prajavahini Dhamni, Rasavaha Dhamani* looking at all this points we can say that, anatomically *Pranavaha Strotas* can be correlated not only with respiratory system but also with whole pulmonary and systemic circulation of the body.

References

1. Agnivesha, Srotasam Vimanam 5th chapter, vimana sthan in Sharma RK and Dash B. Charak samhita (with English translation and critical exposition based on Chakrapani dutt's Ayurveda dipika) vol II. Chowkhambha Sanskrita Series, Varanasi, sixth Edition; 2000.
2. Susruta, Dhamanivyakarna 9th chapter, sharirsthan in Murthy Shrikant KR, Susruta Samhita Vol. I, English translation Chowkhambha orientalia, Varanasi, Reprint edition; 2008, 145.
3. Susruta, Sharir Sankhyavyakarana 5th chapter, sharirsthan in Murthy Shrikant KR, Susruta Samhita Vol. I, English translation Chowkhambha orientalia, Varanasi, Reprint edition; 2008, 81.
4. Astanga Samgraha, Siravibhag 6th chapter, sharirasthan by Prof KR Srikantha Murthy English translation Vol. II Chowkhambha orientalia, Varanasi, reprint edition; 2009, 79-80.
5. Sushruta, Sharir Sthana 9th chapter 9/11, Kaviraj Ambika Datta Shastri, Sushruta Samhita of Maharshi Sushruta.
6. Pandit K. Shastri & G. Chaturvedi, Charak Samhita of Agnivesha, Chaukhamba Bharati Academy, Varanasi, 19th edition, 1993; 5/7:P710.
7. Charakasamhita Viman sthana chapter 5, shloka 2.4th edition. Varanasi, Choukhamba Sanskrit Sansthana.