



A CRITICAL REVIEW OF PRANAHA SROTAS IN THE CONTEXT OF AYURVEDA

Dr. Bhanupriya Singh^{1*} and Dr. Sandeep Kumar Singh Chauhan²

¹Associate Professor, Mansarovar Ayurvedic Medical College Hospital and Research Centre Bhopal M.P India.

²Assistant Professor, Govt. Auto. Ayurved College Gwalior M.P India.



*Corresponding Author: Dr. Bhanupriya Singh

Associate Professor Mansarovar Ayurvedic Medical College Hospital and Research Centre Bhopal M.P India.

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ABSTRACT

Human body is said to be made up of Srotas. The unmitigated state of Srotas is the material cause for diseases to not concern the body and for maintaining healthy state of the body. Hence the Ayurvediya clinical foundation is based on thorough knowledge of these Srotas. Right from birth to death Swasuchhavasa Kriya is one of the utmost sign of life. The Shwasa Kriya is one of the main functions of Prana Vata. Pranavaha srotas is a crucial concept of Ayurveda, representing the respiratory system and the channels associated with the respiration. This literary review delves into the classical Ayurvedic texts to explore the depth of knowledge surrounding Pranavaha srotas and its functions. The foundational texts of Ayurveda, such as Charaka Samhita and Sushruta Samhita, extensively discuss Moolasthan, Dushti hetu and Dushti Lakshna of Pranavaha srotas. They describe the intricate network of channels responsible for the movement of Prana i.e. the vital life force. Pranavaha Srotas can be considered as a functional unit that consists of the heart, brain, and alimentary canal. Respiratory physiology is directly linked to the circulatory, gastro gastrointestinal systems for the exchange of gases, absorption, transportation, excretion, monitoring, and control of all activities. Pranavaha Srotas is the basic system that works in harmony with all the physiological attributes of the body like circulatory, alimentary, and nervous systems.

KEYWORDS: Pranavaha Srotas, Moola sthan, Pranavaha srotas Vikar.

INTRODUCTION

Srotas are the channels, Paths, or the space through which movement and transformation occur.^[1] They circulate the bodily tissues/Dhatu to various organs. Srotas are the microchannels through which there will be the formation, transformation, and circulation of various bodily tissues like Dosha, Dhatu, and Mala. Srotas has many synonyms like Panthana, Marga, Sira, Niketa, Dhamani, Rasayani, Nadi, Ashaya, Marga, Chidra, etc.^[2] There are 13 Srotas explained in Charaka Samhita^[3], 11 pairs Srotas in Sushruta Samhita.^[4] Each Srotas has Varna - like respective Dhatus, Pramana (Anu, Sthula), and Akriti (Vritta, Deergha, or Prataana).^[5] Even though all Srotas have Varna, Samsthana, and Akriti, Srotas can be considered a functional or physiological aspect rather than anatomical structures. They help in the formation, oozing, transportation, absorption, and excretion of elements in the body. The Prana Vayu is an utterly essential component of the Pranavaha srotas. It is said that 'stroto aium purusha' which means the human body is made up of so many srotas, but for clarification and understanding various functions of srotas are mentioned by Acharya Sushruta and Acharya Charaka. Understanding Prana and Pranavaha Srotas: In the textbooks, the term 'Prana' has been used in different

contexts such as ten locations of Prana^[6] and twelve types of Prana.^[7] 'Prana' also means breathe as it has been described as an attribute of Atma.^[8] It is also a subtype of Vayu.^[9] In the context of Marma too, the term Prana has been used to describe the vital force situated at a specific site.^[10] The Prana has also been used as a synonym of Vayu.^[11] In the context of Pranavaha Srotas, Acharya Cakrapani gives the following explanation: Pranavaha Srotas stands for that Srotas which transports a specific subtype of Vayu, called 'Prana Vayu'.^[12] It is actually based on this subtype of Vayu that the Pranavaha Srotas has derived its name. Thus, the knowledge of Prana Vayu will give insights related to Pranavaha Srotas.^[13]

Pranavaha Srotas: As the Srotas are named according to the substance or the element they carry; the Pranavaha Srotas carry Prana in them. Acharya Chakrapani in their commentary have described Pranavaha Srotas as the channels which carry Vata named Prana in them. In other words, the organs of the body which carry Prana Vayu, its assimilation and transportation to other parts of the body and elimination of Vayurupa Mala constitute the Pranavaha Srotas.

Prana Vayu: Prana Vayu which is transported by Pranavaha Srotas is located in Murdha (head), Ura (chest), Kantha (throat), Jihva (tongue), Asya (mouth), Nasika (nose). It performs functions like Sthivana (spitting or salivation), Kshavathu (sneezing), Udgara

(eructation), Shawasa (respiration), Ahara (deglutination of food) etc. Prana Vayu is also called as Dehadhrika or which holds the body by virtue of the functions it performs.

Chief functions of Prana Vayu

Table 1: As Charaka has described following functions.

Sthivan	To forcefully clear the tracheal and pharyngeal passage of mucous-sputum expulsion. Commentator Dalhana explain it as spitting sputum.
Ksavathu	To sneeze
Udgara	To belch
Nisvasa	Respiration
Annapravesakrit	Ingestion Intake of food through mouth This word indicates other not mentioned functions beside ingestion like propagation of food etc

In addition to functions listed by Caraka, Astanga-Hridaya added some more as functions of Prana Vayu: Control on intellectual level, Control on heart, Control on all sensory and motor organs, Control on mind. All functions considered together by all compendia can be enumerated and explained as follows: comments that all types are circulating through all channels yet Prana Vayu has separate channel.

- **Annapravesa:** Ingestion of food is Annapravesa. Since area of functions of Prana Vayu extends from mouth towards abdomen, this function comes under territory of Prana Vayu. Once food is taken in mouth Prana Vayu directs this food to stomach. Food is one of three 'Bahyapraṇa' namely, air, food and water. Prana Vayu helps this Prana to enter inside body through mouth and inside digestive organ, stomach, through esophagus.

- **Hridaya Dharanam:** Cetana principle abides in heart. Rasa and Rakta are circulated by heart. Heart is one of the ten Pranayatanani. Digested food is converted into Ahararasa. This Ahararasa is responsible for strengthening heart. Role of Prana Vayu in ingestion of food is mentioned above. Prana Vayu gets involved in strengthening heart more by way of looking after Ojas, which is located in heart. Since heart is site of Prana, Pranavayu takes care of heart and takes care of Oja as well.

- Control of intellectual functions of mind considered as Urogata Hridaya is important, as mind is one of the sites of pathogenesis of disease. Heart is site of Pranavayu. Heart is site of Jivatma. As Pranavayu takes care of heart, it looks after requirements of Jivatma. Mind is an instrument for Jivatma to grasp feeling of pleasure and misery. Movement of mind is supposed to be through channels, which cover entire body. Mind is 'Indriya' and Prana Vayu takes care of all Indriyani of body. This is how this function is included in responsibilities of Prana Vayu. Control on sensory and motor organs is the function of Prana Vayu. Pranavayu take care of all Indriyani, controls and strengthens them.

- **Pranavalambana:** As long as this Vayu is functioning in body, it lives. This function is expressed through respiratory movements. It can therefore be derived that Prana Vayu keeps a living person alive.

- **Svasanam:** Nisvasa is name given by Vagbhata to inhalation of air through nose. He states inhalation is due to Prana Vayu. Prasvasa is exhalation. Respiration comprises inhalation and exhalation. Sharangdhar proposes that process of respiration is due to Prana Vayu.

Caraka-Samhita has described channel for Prana and names it as Pranavaha Srotas. Commentator Cakrapani elaborated this verse. He added that existence of special channel is necessary for such important Vata- type as Prana.

Moola of Pranavaha Srotas

Pranavaha Srotas has its Moola in Hridaya and Mahasrotas, Sushruta Samhita states that Hridaya and Rasavahini Dhamanis as Moola of Pranavaha Srotas, Hridaya is the Moola Sthana for Rasavaha Srotas also. It is responsible for circulating Rasa and Rakta Dhatu all over the body carrying Prana to all parts of the body. Maha Srotas refers to Koshta/ alimentary. Among 15 Koshtanga, Amashaya, Agnyashaya, Hridaya, Unduka, Phuphusa, etc. are also included.^[8] Rasavahi Dhamani originates in Hridaya and connects to all parts of the body. It carries Rasa to all parts of the body. Moola of Pranavaha Srotas not only denotes the anatomical aspects, also represents the functional entities.

Pranavaha Srotodusti (Pathological Manifestations in Pranavaha Srotas)

The following symptoms have been recorded to be associated with the pathological status of Pranavaha Srotas: abnormally rapid breathing reduced breathing rate, abnormal breathing pattern, abnormally shallow breathing, abnormally deep breathing, and breathing associated with abnormal sounds, and, painful breathing. It may be noted that all these symptoms are indicative of an abnormal rate or rhythm of respiration.

Table 2: Physiological Concepts of Respiratory Systems Along with the Connecting References from the Relevant Ayurveda Literature.

Physiological System	Parallels in Ayurveda	Explanation
Respiratory System	Pranavaha srotas and Udakavaha srotas	The physiology of the respiratory system has been described in Ayurveda under two different Srotamsi: Udakavaha Srotas and Pranavaha Srotas. The Mula of Udakavaha Srotamsi is 'Kloma' 21 which is an organ situated on the right side of the heart. Todarmalla, in his commentary on Ashtanga Hridaya, has stated that Kloma is equivalent to Phupphusa (Lung). ²² The role of the lungs in the maintenance of water and electrolyte balance is very crucial. They form an important route for water output from the body and based on this function, the term Udakavaha Srotas becomes relevant to indicate lungs. Features like dryness in the oral cavity, throat, and lower respiratory tract have been described as being produced in the pathological involvement of Udakavaha Srotas. Thus, Udakavaha srotas are responsible for the chemical regulation of respiration through water homeostasis and acid-base balance, whereas, Pranavaha srotas are responsible for the neuronal control of respiration along with the gaseous exchange.

DISCUSSION

Ayurveda, with its roots deeply embedded in ancient wisdom, introduces us to a holistic approach to health. At the core of this philosophy lies the concept of Doshas, elemental forces governing the body. Unveiling the anatomical and physiological aspects of Pranavaha Srotas reveals its integral role in maintaining equilibrium within the body. To comprehend the essence of Pranavaha Srotas, one must delve into the sacred texts of Ayurveda – Charaka Samhita and Sushruta Samhita. These timeless classics provide a detailed roadmap, guiding us through key passages that unravel the ancient understanding of Nishwas, Prana, and their profound connection to overall well-being. The wisdom embedded in these texts bridges the gap between antiquity and modern comprehension. Pranavaha Srotas plays a very crucial and multidimensional role by virtue of the most vital substance it carries through it i.e. Pranavayu. The Moolasthanas of Pranavaha Srotas are Hridaya and Mahasrotas are vitiated due to vitiation of Pranavayu which is carried by Pranavaha Srotas. Acharya Charaka and Sushruta both had mentioned the Moolasthanas of Pranavaha Srotas is mainly Hridaya because of its Pranavahan Karma (blood circulation). Mind:Body Pranavaha Connection Srotas: The and mind:body connection takes centre stage as we explore the intricate interplay between mental and emotional states and respiratory health. Ayurveda, recognizing this symbiotic relationship, prescribes practices such as Pranayama and meditation. This literary review concludes by underscoring the holistic approach of Ayurveda toward respiratory health. The comprehensive clarity, understanding of Pranavaha Srotas provided by ancient Ayurvedic texts serves as a valuable guide for contemporary healthcare, emphasizing preventive measures and personalized wellness strategies.

CONCLUSION

Concept of Srotas, in all different contextual meaning, is still relevant in the present scenario and might give further insights if revisited. Hridaya, Mahasrotas and

Murdha are Moolasthanas of Pranavaha srotas and Rasavaha dhamani are involved in transportation of pranavayu in the body. Neuronal control of respiration falls under the purview of Pranavayu whereas chemical control of respiration, acid-base balance and water electrolyte balance fall under purview of Udakavasrotas. Pranavasrotas should not be studied only with the correlation of respiratory system but it must be studied in context to other major systems like nervous system, cardiovascular system and alimentary canal.

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