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# STUDY ON PRANAVAHA SROTAS W.S.R. TO TAMAK SWAS

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## ABSTRACT

Life starts with breath and ends with breathlessness. The maintenance of life throughout life is maintained by Pranavaha srotas. *Pranavaha Srotas* means the channel, which carries the external air into the body to sustain the life. Thus the *Pranavaha Srotas* is most important for maintaining life and longevity. *Hridaya* and *Mahasrotas* are the *Mula Sthana* of *Pranavaha Srotas*. The diseases like *Shwasa*and *Hikka have their origin from the Mulasthana of Srotas. The Mulasthana of Srotas is important area for proper functioning* of *Srotas*. Hence the treatment of any disease should also include intervention for the betterment of *Srotas*. It implies the necessity of a thorough knowledge of *Srotas*, its *Mulasthana*, its normal functioning etc. In this respect here an effort is made to thoroughly understand the *Pranavaha Srotas*, its *Mula Sthana* and *Shawashan Prakriya* etc.

**KEYWORDS:** *Hridaya* and *Mahasrotas* are the *Mula Sthana* of *Pranavaha Srotas*.

## INTRODUCTION

The word Prana in Ayurvedic literatures has been used in many senses though all of them represent a vital element responsible for the existence of life. In Rigveda, Prana has been described as Vayu. In Yajurveda, Prana is essential for life and in the reference of Prana devta. In this term Prana is also related from Prana Vayn, Apana Vayu and Vyan Vayu. Prana enters in the body with Indriya (Bachendriya, Balendriya) and it is chiefly related with Saraswati and Tejas (Agni). In Charak Santhita Vayu is divided into five kinds as Prana Vayu, Apana Vayu, Udana Vayu, Samana Vayu and Vyan Vayu. The location and function of these Vayus are well explained in these classics. Acharya Sushrut has mentioned, that the Vayu which is Vaktra Sanchari (circulated in the oral cavity) is known as Prana and its functions are to take the Food, and Digestion and its vitiation causes Hiccough and Shvasa Roga. Acharya Vagbhatta has described that main place of Prana are Murdha (head), Kantha

and Hridaya and it travels in Uras (Thoracic region), and it governs Buddhi (intellect), Hridaya(heart), Indriya (senses) and Manas (mind). and its functions are Sthivana, Kshavathu, Udgara, Nihshvas etc. srotas in which this vayu travel termed as pranavaha srotas. Acharya Sushrut considere Pranavaha Srotas to be two in number.

In Parishadyam Shabdarth Shariram the Pranaval't Srotas is accepted as "Respiratory tract" Dr. Bhaskar Govind Ghanekara replaced Rashvahi Dhamanyah with Pranvanhi Dhamanyah considesing to be the two bronchi.

**PRANAVAHA SROTOMULA**

Acharya Charak has described the hiridaya and Mahasrotas as Mula of Pranavaha Srotas. While Acharya Sushrut Stated opinion that respective Mula of Pranavaha Srotas are Hridya and Rasavahi Dhamanis. Chakrapani Datta, commentrator of Charak Samhita has defined the Mula which originates a particular Srotas.

Hridaya (heart) plays an important role in transport of the Prana Vayu through the blood. The blood flow to the heart is described as the right atrium receives deoxygenated blood from various parts of the body by superior and inferior venacava. From the right atrium blood flows into the right ventricle, which pumps it to the lungs through the pulmonary trunk. The pulmonary trunk divides into right and left pulmonary arteries, each of which carries blood to respective lungs. In the lungs, the blood takes up Prana Vayu (oxygen) and the end product of Prana Vayu in the form of Wast is releases. This oxygenated blood, returns to the heart through four pulmonary veins which drain into the left atrium. The blood then passes into the left ventricle, which pumps the blood throughout body by Aorta. So it is established that heart is the Mula of Pranavaha Srotas and proving close relation between heart and lungs.

The second Mula Mentioned by Sushrat is Rasavahi Dhamnis whereas Charak in favour of Mahasrotas

The blood circulation into the body is of two types, Pulmonary circulation as well as Systemic circulation. during digestion the Anna Rasa is absorbed from the intestine mahasrotas and reaches to the heart through Inferior venacava and from where it reaches to the various body part through blood vessels of Systemic circulation, to meet their nutritional requirement. It is essential for life. So it can be evaluated that the blood vessels of Systemic

circulation is Rasavahi Dhamnia and the blood vessels involved in the Pulmonary Circulation is termed as Pranavahi Dhamnia.

**PRANAVAHA SROTODUSHTI**

Acharya Charak described the Samanya Hetu of Sroto Dushti. It means that is food and behavior which are similar to Doshas and dissimilar to Dhatus in properties causes vitiation in Srotas.

Pranavaha Srotas gets vitiated by Kshayat (wasting), Sandharanat (due to the suppression. of natural urges), Rukshayat (due to excessive intake of rough things), Vyayamat (due to excessive physical exercise) Kshudhit (due to excessive fasting which result in dhatu kshaya).

Acharya Charak has mentioned the characteristic manifestations of the Pranavaha Srotodushti are Atisrishtam, Atibaddhani (too long or too short), Kupitam Alpam Alpam Bhikshanam (shallow or frequent respiration), Sashabtia Shulam (associated with sound and pain).

According to Sushruta, an injury to these Srotas produces Akroshan (groaning), Vinaman (bending of the body), Moham (loss of consciousness), Bhrama (illusion), Kampana (shievering) or may ultimately Maranam( prove fatal).

**Acharya Vagbhatta also described**

Too long or too short and Kupitarn Alpam Alpam respiration associated with sound and pain due to the Pranavaha Sroto Dushti.

**DISCUSSION**

As far as the concept of Pranavaha Srotas is concerned, Sushruta has observed it to be two in number, He has mentioned Hridaya and Rasavahi Dhamnias as the Mula of Pranavaha Srotas. Comparing it with the view of Charak who has mentioned Hridya and Mahasrotas as the Mula of Pranavaha Srotas, it looks like that the view of Sushrut was more of a Surgeon and of Charak was that of a physician Since Sushruta has emphasized upon the gross strutcture of the Pranavaha Srotas by counting it to be two in number and describing the result of trauma over its Mula. Charak on the other hand has dealt with the Pathological sequence of events in Pravnavaha Srotas (Sroto dushti) and respiratory distress as its presenting symptoms while describing etiology of Shvasa Roga, Charak has mentioned involvement of Pranavaha srotas. Involvements of chest (Uras) and Srotas Situated at upper portion of body (Urddhva Srotas) in etiology of Kasa also indicates involvement of respiratory system while dealing with the

surgical aspect of Pranavaha Srotas view of Sushrut becomes more significant since it deals with the gross anatomy of Pranavaha Srotas. According to his view lungs see to be the main organs related to this Srotas. Respiratory distress as the manifesting symptoms of Pranavaha Sroto dusthti is mentioned by Charak and its treatment as that of Dyspnoea (Shvasa Roga) is advised.

In Parishdyam shabdarth shariram the Pranavaha Srotas is accepted as 'Respiratory Tract'.

In Abhinav Shariram the Pranavaba Srotas is accepted as "Respiratory Tract".

Considering all above points we can say that Pranavaha Srotas are the channels of Oxygen transportation from nasal cavity up to thoracic cavity i.e. respiratory system. it includes nose, nasopharynx, larynx, trachea and bronchi, lung capillaries and alveoli along with pulmonary circulation.

Acharya Charak has described the Hridaya and Mahasrotas as Mula of Pranavaha Srotas while Acharya Sushrut has accepted the Pranavaha Srotas is a group of two, Hridaya and Rasavahi Dhamnias as origin of these Srotas.

The heart pumps the deoxygenated blood to the lung through the right and left pulmonary artery. In the lungs the blood takes on Prana Vayu (vital air) called oxygenated blood, returns to the heart via four pulmonary veins that empty into the left atrium. The blood then passes into left ventricle which pumps the blood throughout body via Aorta. So it is established that heart is the Mula of Pranavaha Srotas.

The blood circulation in the body is two types pulmonary circulation as well as systemic circulation, during digestion the Anna Rasa is absorbed from the intestine i.e. Mahasrotas and reaches to the heart and from where it reaches to the various body part through blood vessels of systemic circulation to meet their nutritional a requirement. It is essential for life. So it can be concluded that the blood vessels involved in the systemic circulation is Rasavahi Dhamnias and the blood vessels of pulmonary circulation is termed as Pranavahi Dhamnias.

Sroto Dushti of Pranavaha Srotas is experienced, that the normal Passage of Vayu is obstructed by the excessively produced Kapha which is vitiated and obstructred not passing through the proper route, spreads in the whole lung which manifests the symptoms of Shvasa Roga.

Pranavaha Sroto Dushti is present mainly in Hikka and Shvasa Roga as described by the Acharya Charak and Sushruta.

As a Roga five types of Shvasa Roga have been described viz 1. Maha Shvasa 2. Urddhva Shvasa 3. Chhinna Shvasa 4. Kshudra Shvasa 5. Tamak Shvasa, of these five types of shvasa roga the Tamak shavasa is more prevalent effecting in vast community of society.

Tamak Shvasa is a fatal disease and it is one of the most troublesome disease of Pranavaha Srotas. This disease clearly resembles with Bronchial Asthma of modem medicine because of similarity in etiology and clinical features. It is a clinical syndrome characterized by paroxysmal attacks of dyspnoea and wheeze due to increased resistance to the flow of air through the narrowed bronchi. Narrowing of bronchi is brought about by a spasm of bronchial smooth muscles, edema of bronchial mucosa and blockage by the sticky mucus within the bronchial lumen. The precise etiology of the bronchial asthma is obscure however these patients have a continuous state of hyper reactivity of the bronchi as a result of which an attack is precipitated on exposure of various trigger factors such as allergens, physical and chemical irritants, drugs, psychological factors, physical exertion etc.

According to Modern Medical Science the main Pathology of Bronchial Asthma is Bronchospasm and Bronchoscretion. According to Ayurveda, Vataprakopa appears to be responsible for bronchospasm and Kaphap rakopa causes bronchial secretion.

Ayurvedic and Modem both system of medicine postulate that Bronchial Asthma is primarily a disease of respiratory system and i.e. Tamak Shvasa of Pranavaha Srotas.

As regards the clinical manifestation a beautiful picture of the disease has been given in Ayurveda. After dealing with Tamaka Shvasa, Charak has dealt with two more entities viz. Pratarnaka and Santamaka Shvasa. fever and bouts of fainting are the associated symptoms in addition to those of Tamak Shvasa, which can he correlated with the secondary infection leading to acute chest disease, with Asthma. In Santamaka Shvasa strong psychosomatic component is associated with the disease. It usually increases during the night and interestingly attack is relieved by cold diet and atmosphere, quite opposite to Tamaka Shvasa which is aggravated by cold. The patient sometimes observes himself drawing in these a of darkness. This condition simulates much with Cardiac Asthma or Cor-Pulmonale and symptoms wise the patient is more oprthophoeic than dyspnoeic.

**DISCUSSION ON LAKSHANA OF TAMAK SHVASA**

Some of symptoms of Tarnak Shvasa, which I found in my observation here discussed very well. Some of these symptoms are being described here in detail, which I found as similar as Bronchial Asthma.

Greeva Sira Sangraha, this symptoms appears due to Vataprakopa, Sankocha is a Karma of Vitiated Vata. Secondly this may be due to Snayughata in the region of Greeva. Vraddha Vata Dosha contracts the muscles of the head and neck during the attack of the Shvasa Roga. This symptoms occurs during acute exacerbation of Bronchial Asthma. In this stage patients are suffering from Severe Dyspnoea hence to compensate respiration. Additional muscle of respirations are working here neck muscle eg. Stemocleidomastoid muscle get contracted leading to stiffness of neck and head region. So that due to Vraddha Vata patient feels some pain and stiffness of the head and neck muscles as someone tightly holding the head and neck.

Ghurghurkaina, It appears due to Vitiated Kapha, when increased Kapha situated in Srotas (kantha) obstructs the airway then this sound is produced during attack this type of sound is produced as the patients breaths.

This symptoms appears due to Srotorodha and it is produced during breathing sometimes Vitiated Vata is pratilorna (reverse) in its course in Tamak Shvasa which reaches the respiratory tract, induces airway obstruction and due to excess bronchial secretion interfers with the floe of the air giving rise to Ghurghurkam Shabda, this is equivalent to the Wheezing sound described in modern medicine.

Pinasa, due to Vitiated Vata, excessive secreation of Kapha (sleshma) in Pranavaha Srotas occurs, pinasa is a result of hypersecretion in nasal mucosa.

Atitivra Vega Shvasa, Tamak Shvasa has been described as the disease occurring in Vega (paroxysmal attack). This is ‘Pratyatma Lakshana” of Shvasa Roga. During “Vega” patient gets the difficulty in breathing. The word ‘Vega’ has been mentioned in Charak and Vagbhatta by adding two different adjective like “Ati” and “Tivra”. This means that during the attack, patients feels very troublesome due to obstruction of Shvasa Marga, less amount of Prana Vayu can enters the body. To compensate the required amount of Prana the rate of

respiration is markedly increased.ln Tarnak Shvasa expiration is prolonged, but inspiration is Shortened.

Prana Prapidka Shvasa, this symptoms appear due to increases heart Rate. The Heart Rate is also increases due to increase in Respiratory Rate. Heart may exhaust as it has to work more. Hence there will be feeling of pain in chest. this condition is Known as Severe Dyspnoea.

Lalatsweda, this clinical feature of Asthmatic Attack indicates exertion due to rapid respiration. Sweating is also an indication of tachycardia. Sushrut did not specify Lalatasweda but mentioned the word Sweda, which generally indicates perspiration of whole body.

Asinolabhate Saukhyam, during attack, in sitting position patient feel better than in any other position. In sitting posture diaphragm is lowered, secretion of airways will not obstruct the airway completely there will be more space for gases exchange. Hence patient gets relief while sitting this condition is equivalent to Orthopr[oea described in the cases of Status Asthamaticus.

Muhurmuhurshvasa, To fulfill the demand of oxygen the rate of respiration is increased. As the cough becomes extremely distressive. The patient may have grasping type of respiration, this is a grave condition may occurs in terminal stage of diseases.

Krichhabhasitam, Vak pravritti is main Karma of Udana Vayu. ln Shvasa vitiated Kapha in urasthana obstmcts natural course of Udan Vayu leads to Avaranjanya Karma Hani i.e. Vakprivratti results into krucchabhasitam while mentioning symptoms of Kaphavritta Udana Vakswaragraha is mentioned which explains role of Udana in pathogenesis.

Intense coughing and breathlessness results into hoarseness of voice and the patient feel difficulty in talking. The tenacious mucous coated in the throat including vocal cord leads to difficulty in breathing.

“Shleshma Amuchyamane Bhrisam Bhavati Dukham/ Shleshma Vimokshante Muhurtam Sukbam”.

Sthevana is a karma of Prana Vayu. ln Tamak Shvasa vitiated Kapha obstructs natural path of Vayu leading to prakopa due to Avarana. again due to rukshata of Vata it becomes sticky and cannot expels easily but this Avaranjanya Vayu tries to expels this Kapha with induce pain.

This symptoms also deffers according to underlying pathogenesis, if underlying samprapti is having Kapha dominance in that case Kapha is increased from the beginings due to its own etiological factors which obstructs uraddhva gati of Vayu leading to larger amount of Kapha expelled after little coughing and patient gets relief after expectoration.

## CONCLUSION

Prana is thought conceptually to be Prana Vayu, Rasa and Rakta, Agni, Prana, Pawana and Anna. A highly significant verse simplifiing the complexity associated Prana clearly states that Prana is the air used in respiration i.e. Prana Vayu. The Channels which carry the Prana Vayu (essential air) to be used for respiration are the Pranavaha Srotas. Pranavaha Srotas is considered to be the respiratory system. The symptom associated with the Pranavaha Sroto Dushti also indicates involvement of respiratory system. So it is clear that Pranavaha Srotas are the channels of oxygen transportation from nasal cavity up to thoracic cavity. It includes nasopharynx, larynx, trachea and bronchi, lungs, lung capillaries and alveoli along with the pulmonary Circulation.

Sroto Dushti of Pranavaha Srotas is experienced, when excessively produced kapha obstruct the normal passage of vayu which thus is excited and spreads in the whole lung which manifests the symptoms of shvasa Roga. Five types of Shvasa Roga described in ayurvedic text in which Tamaka Shvasa clearly resembles with bronchial asthma of modern medicine because of similarity in a etiology and clinical features. Tamak Shvasa has been stated as Krichhasadhya or Yapya and it may progress to an incurable state if not treated properly. Role of vamana - Indication of vamana karma in treatment of tamaka shvasa also proves the origin of tamak swas from pittasthana because vamana karma with the removal of kapha also expels pitta from the pittasthana thereby relieving shvasa. In Tamak Shavasa it is clear resembles, that the Applied Anatomical changes is as similar as bronchial asthma.

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