

A THEMATIC REVIEW ON PRANAVAHASROTAS: AN AYURVED APPRAISAL

Chandrakant Sukhdeo Girgune

Professor, Dept of Sharirkriya, Ashwini Rural Ayurveda College, Manchi Hill, Sangamner,
Dist. Ahmadnagar, Gujarat, India

Email: drcsgirgune90@gmail.com

ABSTRACT

Vata, *pitta* and *kaphadosha* move from one part of the body to another via channels called *srotamsi*. “*Srotasus* are the channels, which are widely spread all over the body, where circulation of the fluid occurs irresistibly and continuously. Most of the symptoms and signs explained in the *dusthi* of *Pranavahasrotas* are related to the respiratory system, *Pranavahasrotas* is one of the most significant systems in the body. Site of *Pranavahasrotas* is the heart and the gastrointestinal tract. They are responsible for proper circulation of oxygen to the tissues. Prana is said as *pavana* or *anila*. Life sustenance relays on Oxygen ‘*Ambarapeeyusha*’ and water in the body. Acharya Chakrapani has opined *Pranavahasrotas* are the channels through which the *Pranavayu* flows. *Rasavahidhamani* is considered as *Moolasthan* as mode of transportation. Therefore, it can be concluded that *Mahasrotas*, *Hridaya*, *Rasavahidhamani* and *Moordha* works together in the functioning of *Pranavahasrotas*.

Keywords: *PranavahaSrotas*, *Hridaya*, *Rasavahi Dhamani*, *Shwas*.

INTRODUCTION

The *doshas* of the body, *Vata*, *pitta* and *kapha* move from one part of the body to another via channels called *srotamsi*. *Srotas*, in are refers to the channels of circulation existing in the human body. The acclaim of describing *Srotas* the first time goes to the great Indian surgeon, Acharya Sushruta. Sushruta says that the channels of circulation are present in intra-cellular, inter-cellular and extra-- cellular spaces of the human-body. Though conceptually *srotas* are innumerable, certain number are assumed according to their specified functions so they are 13 in number according to Acharya Charak¹ and 11 *srotas* according to Acharya Sushrut. ²*Pranavahasrotas* is one of the most important systems in the body. *Prana* is said as *pavana* or *anila*. Life sustenance relays on Oxygen *Ambara-*

peeyusha and water in the body. Acharya Chakrapani has opined *Pranavahasrotas* are the channels through which the *Pranavayu* flows. The *Pranavahasrotas* is related with the *shvasa-prasvasa kriya* (respiratory function).

Respiratory tract could be considered as:

- First part (upper respiratory tract), *urdhvajatrugata* i.e. from nose to pharynx. *Nasa*, *nasaputa*, *nasavansh*, *Mukhavivara*, *upajihvika*, *talv*, *kantha*,
- Second part (lower respiratory tract) from pharynx to lungs. *Klomanadi*, *apastambha*, *phupphusa*

Organs-

1. Mouth cavity (*mukhavivara*)
2. Nose (*nasika*)
3. Throat (*kantha*)
4. Pharynx (*grasanika*)
5. Larynx (*swaryantra*)
6. Trachea (*klomanadi*)
7. Bronchi (*apasthambh*)
8. Lungs (*phupphus*)

Nasika (nose): Acharya Sushruta has described Nasa(Nose) under *Pratyanga*. Sushruta said in context of outward opening (i.e. *bahirmukhasrotas*) that there are 2 openings in the *Nasa* which could be taken as *Nasachidra* (nostrils).³ According to Charaka there are nine major orifices seven in head and two below. Here he described two orifices in *Nasa* which could be related to *Nasachira* (nostrils). The *Nasaguha* starts from *nasaputa* and related to epiglottis or upper respiratory passage.⁴

Mukhavivara (mouth cavity): Acharya Sushruta has described it as *Vakra*. *Prana vayu* moves in the mouth cavity.

Kantha (throat): In the process of respiration, *Kantha* plays an important role, which is the *shvasana* path (the part of the upper respiratory tract). The lower part is attached to *Grasnika* (epiglottis) or *swaryantra* (larynx). Acharya Sharangdhara, has described *Kantha* in the context of respiration.⁵

Klomanadi (trachea): *Klomanadi* is *swaspranali* (trachea). *Vayu* enters through *mukha* and *nasika* passage through *Klomanadi*, *Apastambha* and finally in *Phupphus*.

Apasthambha (bronchi): On both sides of chest there are two *vata* carrying *nadis* (bronchi) known as *Apasthambha*, due to injury on it, causes death by filling of air in chest (pneumothorax) or cough or dyspnoea.

Phupphusa (Lungs): Acharya Sushruta described *Koshta* (trunk consisting chest and abdomen), *Phupphusa* as one of the eight *Koshtanga*. On the left and inferior aspect of heart are *plihā* and *phupphusa*, while on the right side are *yakrita* and *kloma*, while *Arundutta* has described the position of *phupphusa*, *Kloma* and *Yakrita* on right side of heart.⁶

Anilayan: Acharya Sushruta has used term *Anilayana* in description of *swaraghana* (a type of *kantagataroga*). Dalhana has further explained '*anilaayanesuvayubhageshu*' which can be understood as *svasamarga* i.e. bronchial tree branching as well as alveoli.

Pranavahasrotas: Acharya Charak has described that *moolastana* of *Pranavahasrotas* are *Hridaya* (heart) and *Mahasrotas*⁷ (alimentary canal), whereas Sushruta stated *Hridaya* (heart) and *Rasavahidhamani* (blood vessels) as *mool*. He has considered *Hridaya* (heart) and *Mahasrotas* (alimentary canal) as *mool* because nutrients are obtained from *anna* (*ahara*) through alimentary canal and heart is responsible for circulation of *annarasa* and *prana vayu* (oxygen), both *anna* and *pranavayu* have been considered as *prana*. *Pranavahasrorodusti* produces various symptoms like *atisrutam* (increased rate of breathing), *atibaddha* (difficulty in breathing) *kupitam*, *alpam* or *abhiksanam* (breathing pattern is short with increased frequency), *sasahabashula* (breathing associated with sound and pain) etc. which shows similarity with various respiratory diseases like as *Swasa*, *Kasa* etc. In pathogenesis of *shvasa*, *hikkapranavahasrotas* get involved. But on careful observation one can find that these symptoms are related to rate and rhythm of respiration only which in turn are controlled by Nervous system. These respiratory symptoms might be because of disturbance in respiratory system organs, cardiovascular organs or nutritional deficiency due to alimentary system organs and involvement of nervous system. This might be the reason of considering *hridaya* (heart, brain) and *Mahasrotas* (alimentary canal) as *mool* of *Pranavahasrotas*. According to Chakrapani *Pranavaha Srotas* stands for that *Srotas* which transports a specific type of *vata* called *Pranavata*.⁸ All sensory and motor organs along with their *pranavahasrotamsi* are basically connected to the head (brain) in a fashion similar to connections between sunrays and the Sun. *Sirasiindriyaniindriyapranavahanich*, *srotamsisuryamivagabhastyahsansritani*, *Sarvahichestavatenasapranahpraninamsmitah* in this verse Acharya Charak has mentioned that all the activities either physical or mental are due to *Vata* and that is why it is called as *Prana* of all living being.

Prana vata controls and regulates the intellectual functions, mental process and activities like spitting, sneezing, belching, respiration and deglutition. All these activities are governed by Nervous system so based on above description *pranavahasrotas* stands for nervous system also. So *pranavahasrotas* should not be studied only with the correlation of respiratory system but it must be studied in context to nervous system, cardiovascular and alimentary canal (GIT).

Symptoms of injury to *Pranavaha Srotas*:

Aakroshana – Screaming

Vinamana – Bending of body

Mohana – Perplexing

Bhramana – Giddiness

Vepana – Tremors

Maranam – Death

All these symptoms cause due to low oxygenation or low nutrition. When there is total blockage of supply of oxygen and nutrients, it ultimately leads to death. This is also the earliest explanation available to show that the oxygen, which is the prime element representing the life and *rasa* or essential nutrients are transported in the same passage.

Symptoms of vitiation of *Pranavaha srotas*:⁹

- *Atisrushtashwasam* – too long (prolonged) breathing
- *Atibaddham* – too short breathing (short of breath)
- *Kupitamshwasam* – difficult breathing
- *Alpamalpamshwasam* – frequent and interrupted / intermittent breathing
- *Abheekshnamshwasam* – highly disturbed breathing patterns looking scary
- *Sa shabdashwasam* – abnormal sounds during breathing
- *Sa shulashwasam* – painful breathing

Causes of *Pranava Srotas* vitiation:

- *Kshaya* – depletion of tissues
- *Sandhaaranaat*– forcibly withholding the natural body reflexes or urges Example, those of stools, urine etc
- *Roukshyaat*– intake of dry foods
- *Vyaayaamaat Kshudhitasya* – excessive exercise in presence of hunger
- *Anya daarunakaarya* – doing many such activities which are beyond one's physical capacity

Management of vitiation of *PranavahaSrotas* –

The vitiation of *PranavahaSrotas* should be managed on the lines of treatment of *Hridroga* (heart diseases), *Kasa* (cough) and *Shwasa* (breathing disorders, dyspnoea). When the symptoms of gastrointestinal tract like loss of appetite, indigestion, bloating, anorexia, regurgitation, constipation etc. are found on the backdrop of vitiation of *Pranavahasrotas* or if those symptoms are associated with respiratory symptoms, the alimentary tract also should be effectively treated.

DISCUSSION

According Acharya Charaka and Sushruta, *Hridaya* or heart is included as the site of *Pranavahasrotas* along with the lung and the whole respiratory apparatus entangled with heart. Thus, heart and lung disorders manifest with *shwasa* as one of the symptoms. The mention of *Rasavahinidhamanis* by Sushruta points towards the nutritional imbalances causing *Shwasa*. The mention of *mahasrotas* points towards the digestive imbalances and errors of metabolism causing *pranavahasrotodushti*, *shwasa* being one of its complaints. Thus treating *pranavahasrotodushti* combats *dyspnoea* caused due to lung and heart pathology, nutritional impairment and errors of metabolism.

Moola refers to the developmental or generative place. Almost all the Ancient acharyas has opines that the head or *moordha* being the main seat of *prana*, whereas there are differences of opinion regarding the roots of *Pranavahasrotas*.¹⁰Some Acharya's orated that *Hridaya* and *Mahasrotas* is the root of *Pranavaha srotas*,¹¹while some others believe *Hridaya* and *Rasavahanidhamani* to be the roots of *Pranavahasrotas*. In a human body, nose is said to be the gateway of head, it can be assumed that *Pranavahasrotas* is a structure made up by various organs right from the tip of *nasa* up to the *mahasrotas*.

CONCLUSION

Pranavahasrotas is one of the most significant systems in the human body. The site for *Pranavahasrotas* is the heart and the gastrointestinal tract which are responsible for proper circulation of oxygen to the tissues. *Pranavahasrotas* should not be studied only with the correlation of respiratory system but it must

be studied in context to other major systems (*srotas*) like nervous system, cardiovascular system and alimentary canal. For basic life support for survival of human being the expert management of *Pranavahasrotas* very critical in clinical scenario.

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