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### ABSTRACT

In *Ayurveda*, the concept of *Srotas* has been mentioned very specifically. Body is composed of numerous *Srotas*, which have a significant role in the maintenance of the equilibrium of body elements. Their continuous and proper functioning is the factual cause for healthy state of the body; therefore, any obstruction in this process leads to disease. Right from birth to death *Swasochhvasa kriya* is the sign of life. The environmental pollutions and food habits disturbs the *Swasochhvasa kriya*, that may lead to various diseases like *Swasa*, *Kasa* etc. The act of respiration is the physiological function of *Prana vata*. The word *Pranavaha srotas* means a channel or path through which the external air enters into the body to sustain life. As it has been earlier mentioned that, all the activities in which *Pranavayu* is directly or indirectly involved to denote either life or the sustenance of life. Therefore, *Pranavaha srotas* is the most important factor for the longevity.

As the *Moolasthanas* is, the important area for the functioning of any *srotas*, by treating the *Moolasthanas* the disease related to this specific *Srotas* will be cured. In case of *Pranavaha srotas* there is differences of opinion regarding *Moolasthanas*. So here, the study was conducted to highlight the importance of *Moolasthanas* of *Pranavaha srotas*.

**Key words-** *Srotas*, *Pranavaha srotas*, governing points, *Moolasthanas*

### INTRODUCTION

“Life starts with breath ends with breathlessness; this breath is maintained throughout the life by *Pranavaha srotas* along with its *Moola sthanas*.”

**Pranavaha srotas:** *Pranavaha srotas* 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. The word *Prana* is derived from the Sanskrit root

“*An*” with a prefix “*Pra*”. “*An*” means to breath, to live. One of the meanings of the

root „*Pra*” is to fulfill, where as one of the meaning of „*Na*” is the nasal<sup>2</sup>. Thus, the whole word *Prana* means the fulfillment through the nasal part, which is necessary for the prolongation of life. *Acharya Chakrapani*<sup>3</sup> has opined *Pranavaha srotas* are the channels through which the *Pranavayu* flows.

### **Moola sthana's of Pranavaha srotas-**

*Moola* refers to the developmental or generative place<sup>4</sup> Almost all the Ancient authorities opines that the head or *moordha* being the main seat of *prana* Whereas there are differences of opinion regarding the roots of *Pranavaha srotas*<sup>5</sup>. Some opines that *Hridaya* and *Mahasrotas* is the root of *Pranavaha srotas*<sup>6</sup>, while some others believe *Hridaya* and *Rasavahani dhamani*<sup>7</sup> to be the roots of *Pranavaha srotas*. In a human body, *nasa* or nose is said to be the gateway of head and as such, it can be assumed that *Pranavaha srotas* is a structure made up by various organs right from the tip of *nasa* up to the *maha srotas*

### **Moordha-**

In *Charaka Samhita* it was mentioned that „siras“(head) is the seat of all *indriyas* and the *Pranavaahi srotas* concern with these *indriyas* shoot out or diverge from this center controlling the life just similar to the raise of the sun<sup>8</sup>. *Pranavata* initiates impulses from *Siras* and travels through nose, tongue, pharynx, neck till *uras* understood as reticular formation from medulla oblongata with higher center connected especially “respiratory center” which promotes intake of air, food and expulsion of phlegm, gas (respiration). *Prana pavana* means, the *Pranavayu* or *Pranaanila*. The function of *Prana* is “*Hridayendriya chittadruk*”, *Pran Vayu* controls heart, senses and mind. It suggests the brain centre in medulla oblongata does the control of respiration. So, here by it is crystal clear that *Moordha* is the seat of *Prana*.

### **Hridaya**

The internal or tissue respiration consisting of the gaseous exchange between the cells and their fluid medium is

equally important for the *jeevanakriya*. *Sushruta* seems to have indicated this aspect by stating that the *Hridaya* (in this context, the thoracic heart) and *Rasavahani dhamanies* are the *moolas* of the *Pranavaha Srotas*.

From *Acharya Sharangadhara* explanation about the total physiology of Respiration, it is understood that *Hridaya* is the *Moola Sthana* of *Pranavaha srotas*<sup>9</sup>. According to him, “*Prana Pavana*” situated at *Nabhi* (Heart), after leaving *Hritkamala* (Lungs) comes out through *Kantha* mixed with *Vishnupadamruta*. After having *Ambara Peeyusha* (oxygen), it comes back quickly into the body to nourish the whole body and to enliven the digestive fire in the stomach.

The commentator *Adhamalla*, in his commentary “*Gudharth Sandipani*” over the above verse describes that *Nabhishtha pranapavana* means *Nabhishtha Iti Hridayasth...* Heart with vessels is called *Nabhi* in *Ayurveda*, not only lungs concern with the respiration but lungs along with heart are responsible for respiration.

It is also known that heart has its own autonomous conduction system, which regulates cardiac cycle. The conduction system of heart and the respiratory centre of brain ultimately govern the process of respiration, which is done by lungs.

In many of the cardiac diseases it is observed that *Swasa* and *Kasa* as common cardinal feature. Which can be regarded as *Paratantra Swasa or Kasa*, there are many of cardiac disorders resulting from *Pranavaha sroto vyadhis* which are placed under *Swasa* particularly *Maha, Urdwa and Chhinna swasa*<sup>10</sup>.

In the context of *Vega dharana* also *Acharya Charaka* mentioned about *Hridroga* in *Sramaswasa dharana*<sup>11</sup> and *Kasa Dharan*, which are having direct relation with *Pranavaha srotas*. Lungs looks active during the process of respiration, but it is vitalized by heart, so there is a proportion with Heart rate and respiratory rate in the ratio of 4:1. Thus by considering all these views of our great saints, it can be concluded that

- There is deep relation of respiratory system with cardiovascular system.
- The process of respiration is governed by the conduction system of heart and by brain. Therefore, *Hridaya* comes as the *Moola Sthana of Pranavaha srotas*.

### Mahasrotas

The word „Prana“ has been used to denote various meanings like the strength<sup>12</sup>, the food<sup>13</sup>, the *Prana Vayu*<sup>14</sup>, life<sup>15</sup> etc. All these words in one way or other indicate towards the life or the sustenance of life. According to *Acharya Sushruta*, the functioning area of *Prana Vayu* is *Vakthra*<sup>16</sup> and it upholds the whole body along with the *Prana*. So on critically evaluating this description, it can be opined that the *Pranavayu* is an utterly essential component of the *Pranavaha Srotas*.

Based on the above explanation, the term *Maha srotas* means *Pupphusa* in *lakshana vritti*, because it is the main site where the *Prana vayu vyapara* takes place (gaseousexchange). The word *Mahasrotas* according to *Acharya Charaka* is one of the two *moolas* of *Pranavahasrotas*, which indicates that it is a large tube and large in diameter. Since the “*Pranavayu*” is a corporeal substance, the *Mahasrotas*

should be a patent structure. Therefore, the *Mahasrotas* is associated with *Pupphusa* (lung) the trachea, its two branches, bronchi and their further branching into bronchioles to the alveoli; all these structures can included under *Mahasrotas*.

According to *Acharya Charaka*, *Mahasrotas* is a synonym of *Kostha*<sup>17</sup>. *Acharya Sushruta* has mentioned *Kostha* includes *Amashaya*, *Agniyasaya*, *Hridaya*, *Unduka*, *Pupphusa* etc. Therefore, it can be concluded that, *Mahasrotas* is an organ of respiration.

While explaining the organogenesis of the body- *Acharya Susruta* opines, *Pupphusa* as “*sonita phena prabhava*<sup>18</sup>”. Here the *phena dathu* resembles the lightest part of blood which is rich in *Vayu* and *Akasha Mahabhutas*, by that the lungs resembles a cluster of bubbles or multiple air filled sacs for providing a large surface area for gaseous exchange as in alveoli. So it is clear that *shonitha phena prabhava* indicates the functional anatomy of lungs

*Acarya Charaka* while explaining *Pranavaha Srotodushti lakshanas*<sup>19</sup>, all *lakshanas* clearly shows the functions of lung hence indirect reference to involvement of Lung in the *Pranavaha srotas* is there.

- Further, he told that *Pranavaha Sroto vyadhis* should be treated similar to *Swasa roga*<sup>20</sup>, which establishes Lungs and function of breathing are integral to *Pranavaha srotas*.
- In *Sharngadhara samhita*, it is mentioned that *Pupphusa* is the *adhara*<sup>21</sup> for *Udanavayu*. Moreover, *Udanavayu* is the one, which helps in *ucchwasa kriya*. This also supports *Pupphusa* as *Mahasrotas*.

## Rasavahi dhamani-

*Rasavahi dhamani* is the name given to the arteries which helps in taking pure and nutritionally rich blood<sup>22</sup> from *Puppusa* to *Hridaya* and then to all body tissues. *Hridaya* is the seat of *Ojus*, *Prana* and root of the *Rasavaha srotas* also. Hence, it is clear that these *siras* carry the *Ojus* or the *Prana* from Heart to the smallest unit of the body as they further divide into numerous branches and attain the name *Mahaphala*. *Prana* reaches to every corner of the body through *Rasavahi dhamani* and then performs the categorical functions. So there by *Rasavahi dhamani* is considered as *Moolasthanas* as mode of transportation

## CONCLUSION

“*Srotasus* are the channels, which are widely spread all over the body, where circulation of the fluid occurs irresistibly and continuously. Most of the *lakshanas* explained in the *dusthi* of *Pranavaha srotas* are related to the respiratory system, so it has been related to respiratory system. *Moolasthanas* - Master of that Organ system. In case of *Pranavaha Srotas*, *Moolasthanas* is the place from where it is being distributed and regulated. The Heart and the Respiratory centre of the Brain ultimately govern the process of respiration, which takes place in the Lungs. *Rasavahi dhamani* is considered as *Moolasthanas* as mode of transportation. Therefore, it can be concluded that *Mahasrotas*, *Hridaya*, *Rasavahi dhamani* and *Moordha* works together in the functioning of *Pranavaha srotas*.”

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Source of support: Nil

Conflict of interest: None

Declared

