



APPLIED ANATOMY OF PRANAVAHA SROTAS WSR TO COVID-19 PANDEMIC

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ABSTRACT

Ayurvedic classics the term Srotas is used as dynamic inner transport system of body-mind-spirit organization in addition to circulatory system. Srotas are the inner transport system of the body which provide platform for activities of other important bio-factors like three Dosh, the seven Dhatu, the Oja, the Agni etc. In Ayurvedic Acharyas have described that the entire range of life processes in health and disease depends on integrity of the Srotas system which is prone to lose its integrity due to out of order lifestyle and faulty food. The world has been witnessing threats due to different types of viral infections of respiratory system like the recent coronavirus disease-2019 (COVID-19) pandemic. Unfortunately, the conventional system of medicine has not come up with a successful strategy for the management of cases or for effective prevention.

KEYWORDS: Ayurveda, Srotas, Pranava Srotas, Pandemic, Respiratory System, Covid -19.

INTRODUCTION

Life starts with breath and ends with breathlessness. The maintenance of life throughout life is maintained by Pranava Srotas. Pranava Srotas means the channel, which carries the external air into the body to sustain the life. Thus the Pranava Srotas is most important for maintaining life and longevity. 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. Srotas are the channel in the body through which various substances pass from one place to another. There are an infinite number of Srotas present in the body. All the physiological and pathological processes conducted in the body are dependent on Srotas. Pranava Srotas are the most important Srotas in the body which is the pathway for Pranswaropivayu or we can say oxygen.

There are 11 pairs of Yogvahi Srotas according to Acharya Sushrut and according to Acharya Charak there are 13 pair of Sthool Srotas. Pranava Srotas is the main Srotas among all these Srotas Pranava Srotas is a type of Srotas which carry Prana that's why it is called Pranava Srotas. Vital air or vital energy is responsible for each and every activity of the living body.

Towards to the end of 2019, a novel corona virus, now designated as Severe Acute Respiratory Distress or SARS CoV-2, was identified as the cause of a cluster of pneumonias in Wuhan, China. The present Pandemic of COVID-19 has brought the so-called human activity to a

standstill, and has forced the entire world to seek very seriously for its cause, mechanisms of pathogenesis and its solution. Ayurveda being one of the oldest surviving medical tradition, has a key role to play in this crucial situation.

Pranava Srotas

Pranava Srotas is most important Srotas among all the Srotas because it carries Prana or Prana Vayu which is important for life. In Ayurveda Dash Pranayatan are where Prana resides, Sankhau, Marmatrayam, (Hriday, Basti, Nabhi) Guda, Shukra, Oja, Rakta.

Place of Pranava

Sthan of Prana is Murdha or Sirhapradesh, Urah (Vakshasthal place of heart and lungs), Kantha, Jihva Nasika and spitting, sneezing, burping, Shwasa (respiration), intake of Aahar are function of Pranava.

Causes of Pranava Srotas Vitiation

Dhatukshay- Depletion of tissue
Sandharanat- Withholding of natural urges
Roukshyat- Consumption of dry food
Kshuditasya- Excessive exercise during starvation
Vyayamat- Tenuous exercise

Symptoms of Pranava Srotas Injury

Akrosh- Screaming/anger
Vinaman- Bending of body
Mohan - Unconsciousness
Bhram - Dizziness

Vepanan- Palpitation
Marnam – Death

Symptoms of Pranava Srotas Vitiation

Atishrustamswas - too long breathing
Atibaddhamswas - obstructive breathing
Kupitswas - difficult breathing
Alpaalpamswas - Cheyne- stroke respiration
Abheekshanamswas - frequent breathing
Sasabdswas- breathing with abnormal sound
Sashoolaswas - painful breathing

Adhishtaanam - Site

The proper Adhishtaanam of covid 19 can be suspected as Koshtam itself, but the manifestation happens in Uras, which itself is a predominant site of Kapha. Many a time, it has been found that Pitta Dosha exerts a significant pathological influence on Kapham. The Ushna Guna of Pitta, in combination with the Sa-Sneha and Drava Guna will exert a pathological effect on Kapha, thereby making it A-Sthira (unstable) and A-Badha (unbounded). Here also, as stated in the description of the stages, Pitta can trigger this pathological cascade leading to the Syandana and further Soshanam. This can lead to Dhaatu Paakam and death.

Samuthaana Vishesham – The Etiology

The occurrence of a Kapha-Vata predominant Sannipaata Jwara as a Janapada-Udhwamsa in Vasanta Ritu points to the rapid and violent vitiating of Vaayu, Udaka, Desa and Kaala due to the activities that can be marked as Prajnaaparaadha. Moreover, the predisposing factors such as the old age and co-morbidities are causes of deteriorated Rogi Bala and which resulted in instability of Ojas and fatality.

Patho-Physiology

Most patients with COVID-19 predominantly have mild a respiratory tract infection associated with SARS-CoV-2 infection. However, in a small proportion of cases, they can progress to a more severe and systemic disease characterized by the Acute Respiratory Distress Syndrome (ARDS), sepsis and septic shock, multiorgan failure, including acute kidney injury and cardiac injury. Autopsy findings in China and European countries showed endothelial damage of pulmonary vasculature, microvascular thrombosis and hemorrhage linked to extensive alveolar and interstitial inflammation that ultimately result in COVID-19 vasculopathy, pulmonary intravascular coagulopathy, hypercoagulability, ventilation perfusion mismatch, and refractory ARDS. Hypoxemia, secondary to ARDS may also activate the coagulation cascade.

The predominant pulmonary involvement of covid-19 can be explained by the commonality of Pranava Srotas vitiating factors with that of vata, [Vimana Sthana 5/10] (Kshaya-weight loss, Vega Sandharan-constipation, Rukshata-low fat high fibre diet intake, Vyayamat Kshudhitasyainappropriate excessive

exercise) and the increasing incidence of these in the present day life style.

Mode of Transmission

- This virus mainly transmitted from infected person while coughing or sneezing.
- This virus can transmit from person to person up to 1 meter only.
- No airborne transmission noticed in corona virus transmission as we seen in case of chickenpox virus.
- It is spread by an infected person with COVID coughing and the droplets from his cough infecting others in close vicinity (less than 1 meter).

CLINICAL FEATURES

Fever, fatigue and dry coughing are considered the main clinical manifestations, but symptoms such as stuffy nose, running nose, and diarrhea are relatively less common. In severe cases, dyspnea and/or hypoxemia usually occurs after one week of disease onset, and the worse can rapidly progresses to acute respiratory distress syndrome, septic shock, metabolic acidosis hard to correct, and hemorrhage and coagulation dysfunction, multiple organ failure, etc.

PREVENT SPREAD OF CORONA VIRUS

- Social distancing
- Wash hands frequently with soap and water for 40 sec. an alcohol based hand sanitizer with 70% alcohol must be used for 20 seconds. If hands are dirty or soiled, do not use alcohol based hand sanitizer, but wash hands preferably with soap and water.
- While coughing and sneezing cover nose and mouth with handkerchief, paper tissue. If handkerchief or tissue paper is not available cough into the flexed elbow. Dispose of tissue immediately after use and wash hands.
- Refrain from touching face, mouth, nose and eyes.
- Stay at least a meter away from those coughing or sneezing.
- Monitor your body temperature
- No handshakes
- Diagnosed patients to use face masks so as to prevent the spread by viral droplets to others and to stop from getting infected for normal individual.

Treatment of Pranavsrotas

- Management of Pranava Srotas vitiating factors is on the line of treatment of Shwasroga (breathing disorder), Hridayroga (heart disease), and Kasa (cough).

CONCLUSION

The Channels which carry the Prana Vayu (essential air) to be used for respiration are the Pranava Srotas. Pranava Srotas is considered to be the respiratory system. The symptom associated with the Pranava Sroto Dushti also indicates involvement of respiratory system. So it is clear that Pranava 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 Shwasa Roga. The predominant pulmonary involvement of covid-19 can be explained by the commonality of Pranavaha Srotas vitiating factors with that of Vata, and the increasing incidence of these in the present day life style.

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