

CORRELATION OF PRANAVAHA SROTAS VIKARA WITH COPD**Dr. Ankita Sajwan^{1*} and Dr. (Prof.) Basant Kumar Thakur²**P.G Scholar¹, Associate Professor & HOD²

Department of Rog Nidan Evum Vikriti Vigyan, Government Ayurvedic College and Hospital, Patna-03.

***Corresponding Author: Dr. Ankita Sajwan**

P.G Scholar, Department of Rog Nidan Evum Vikriti Vigyan, Government Ayurvedic College and Hospital, Patna-03.

Article Received on 01/08/2022

Article Revised on 23/08/2022

Article Accepted on 12/09/2022

ABSTRACT

Respiratory disease is responsible for a major burden of morbidity and early death. The increasing prevalence of chronic obstructive pulmonary disease (COPD) contributes to the overall burden of chronic disease in the community. Chronic obstructive pulmonary disease (COPD) is not a single disease but it is a group of disorder in which complete, partial obstruction of trachea bronchial tree occurs which functionally disturbed the lungs. According to WHO, COPD is the third leading cause of death worldwide. It is persistent and progressive respiratory symptoms like difficulty in breathing, cough and phlegm production are present. From Ayurveda point of view respiratory diseases occur due to involvement of *Pranavaha Srotas*. Hence we can say that COPD is one of the disorder of *Pranavaha Srotas* in which cough, breathing problems, disturbed pattern of respiration occurs. The etiological factors and clinical features of *Pranavaha Srotodushti* are somewhat similar to COPD. There are so many diseases which are studied under *Pranavaha Srotas Vikara* in which *Kasa* and *Shwasa* are two diseases which can be co-related with COPD. Identification, reduction, and control of risk factors to prevent the onset of COPD are important steps towards developing strategies for prevention of COPD. Lifestyle modification along with treatment principle & formulations mentioned in Ayurveda can be adopted for the prevention and management of COPD.

KEYWORD: COPD, *Kasa*, *Shwasa*, *Pranavaha Srotodushti*.**INTRODUCTION**

Pranavaha Srotas is first and important *Srotas*, which carry *Prana* all over body. It is related to heart, lungs and other structures like pulmonary artery and pulmonary vein, most of the *lakshanas* explained in the *dushti* of *Pranavaha Srotas* are related to the respiratory system so it has been related to respiratory system. COPD is a preventable and treatable disease characterized by persistent airflow limitation that is usually progressive, and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases. Related diagnosis includes Chronic Bronchitis and emphysema.^[1]

Chronic bronchitis is characterized by persistent cough with expectoration on most days for at least three months of the year for two or more consecutive years. Emphysema, permanent enlargement of airspaces distal to the terminal bronchiole, accompanied by destruction of their walls, and without obvious fibrosis.^[2]

AIMS AND OBJECTIVES

1. To review COPD from Ayurvedic point of view and

2. To plan life style modification along with its treatment principle.
3. To enlist certain Ayurvedic methods that would be beneficial in the management of the COPD.

MATERIAL AND METHODS

To fulfil the aims and objectives relevant information on various Samhita, modern medical textbooks and websites etc. were searched.

Etiopathogenesis

The prevalence of COPD is directly related to the prevalence of tobacco smoking and, in low- and middle-income countries, the use of biomass fuels. By 2025, the number of cigarette smokers worldwide is anticipated to increase to 1.5 billion, ensuring a growing burden of tobacco-related respiratory conditions.^[3]

In classics exposure to smoke, dust particles, excessive exercise, intake of dry food, entry of food particles into respiratory passage and suppression of the urge to sneeze, etc.

Table 1: faulty diet and life style errors.^[4]

| | |
|-------------|--|
| Diet | heavy, dry, <i>Abhishyandi</i> food like yoghurt, cold food and drink. |
| Lifestyle | over physical exercise, hard work, weight lifting. |
| Environment | cool environment, exposure to dust, smoke, wind, sun. |

PATHOGENESIS

In COPD, due to some allergens like inhalation of tobacco smoke, exposure to pollutants, biomass fuels etc. there is activation of alveolar macrophages which releases cytokines that causes inflammation of lung tissue. The inflammation results into tissue damage. Repeated bouts of inflammation causes airway remodeling and their changes include – hypertrophy of bronchial smooth muscle and mucous gland, loss of elastic tissue, inflammation and fibrosis in airway wall resulting in premature airway closure, gas trapping and dynamic hyperinflation leading to changes in pulmonary and chest wall compliance, destruction of alveoli.^[5] These changes lead to airflow limitation and physiological deformity resulting into clinical features of COPD.

In classics, pathogenesis of *Pranavaha Srotodushti* described in regards of *Kasa* and *Shwasa* somewhat similar to the above mentioned description as due to these etiological factors there is congestion, inflammation, or atrophy in the lungs or ducts. Due to this, production of mucous increases, as it spells out with *Kasa*. *Kapha* gets aggravated and brings obstruction for the movement of *Vata* in *Uras* leading to aggravation of *Pranavaha* and *Udana Vata* that leading to *Kasa* along with expectoration. When there is an obstruction of the air passages (bronchial tree) due to *Kapha* and lack of space for the breath, then rapid breathing begins. If the expulsion of phlegm along with *Kasa* does not happen easily due to vitiation of *Vayu*, then intensity of breathing itself increases.^[6] If there is association of *Vayu* with *Kapha* there is an abnormal movement of *Vayu* producing *Shwasa* (dyspnea).^[7]

CLINICAL FEATURES

COPD should be suspected in any patient over the age of 40 years who present with symptoms of chronic bronchitis and breathlessness. Cough and associated sputum production are usually the first symptoms, often referred to as a smoker's cough. Other symptoms are edema, morning headache, pursed-lip breathing, feature of right heart failure (cor-pulmonale) and hypercapnea, respiratory failure are the usual terminal event. Breath sounds are typically quiet. Crackles may accompany infection but, if persistent, raise the possibility of bronchiectasis. Two classical phenotypes have been described Pink Puffers (thin & breathless, maintain a normal PaCo₂), Blue Bloaters (develop morning headache, edema & secondary polycythemia).^[8]

The characteristic manifestations of the vitiation of *Pranavaha Srotas* are: *Atisrishtam-Atibaddhama* (early onset or restricted respiration) *Kupita* (fitful respiration) *Alpa-almam* (shallow or frequent respiration) and

Sashabdham Sashulam (abnormal breath sound with pain) which resembles the description of COPD.^[9]

The pattern of respiration found in COPD is somewhat similar to *Urdhvaswasa* described by *Acharya* due to the obstruction of *Srotas* (respiratory channels) because of accumulation of the *Kapha* (mucous), the movement of *Vayu* (air) is hampered and unable to take deep inspiration in spite of labored breathing (rapid and shallow).^[10]

Diagnosis

The diagnosis requires objective demonstration of airflow obstruction by spirometry and is established when the post- bronchodilator FEV₁/FVC is less than 70%. A chest x-ray is essential to identify alternative diagnosis, such as cardiac failure, lung cancer, and the presence of bullae. Blood count, alpha₁-antitrypsinase should be assayed.^[11]

Management of COPD by Ayurveda

In Ayurveda, for prevention or management of any disease there are three main steps.

1. *Nidanparivarjan*
2. *Shamanchikitsa*
3. *Shodhanchikitsa*

Nidanparivarjana: It includes life style modification and avoidance of etiological factors. Follow all such regimen which is suitable to one. Most importantly we must stop smoking because if we still smoke, it is the single greatest cause of COPD and other respiratory problems. *Shamana* is a pacification treatment, and *Shodhana*, it is a biopurifactory method technique.

Modify Lifestyle: Exercising regularly and maintaining normal body weight can help in preventing COPD. Ayurveda recommends inculcating healthy habits like waking up early and consuming a glass of warm water on an empty stomach to prevent complications associated to COPD.^[12]

Yogasana and *Pranayam*: *Bhujangasana*, *Shavasana*, *Shalabhasana*, *Pashchimotasana* are useful asanas for *Pranavaha Srotas* as it accelerates the blood circulation of the lungs and thus increase the vital capacity of lungs. *Pathya*: Taking fresh warm diet which is low in saturated fat but rich in fruits, *katu*, *lavana*, *ushna*, *snigdha*, *laghuahara*, *methi*, garlic, ginger etc.

Apathya: Use of black gram, fermented and sour food, pizza, burger, cold drink, refrigerate food particles etc. shall be avoided in the daily diet.^[13]

DISCUSSION

COPD is a *Pranavaha Srotas Vikara* and most common symptoms include dyspnea. This is because the air (*Vayu*) gets entrapped into the alveoli, due to obstruction cause by *Kapha dosha*, resulting difficulty in breathing. Smoking is the risk factor for this particular disease. As the disease progresses, impairment of lung function decreases the physical inactivity of the patient. Exposure to pollution also affects this disease. *Nidanparivarjan* is the only effective way to reduce risk. To minimise the risk of COPD, one should manage the risk/causative factors by quitting smoking, avoiding close contact with people suffering from respiratory infections, and avoiding exposure to excessive heat, cold and high altitudes and environmental irritants.

CONCLUSION

After the brief discussion on relation between COPD and *Pranavaha Srotas Vikara*, it shows that etiological factor included in Ayurveda classics as "*Rajasa Dhoomvatabhyam Shitathanambusevanam Rukshanna Vishmashana*" (*ch.chi.17/13*) and also mentioned as risk factors of COPD like exposure to air pollution, passive smoking and occupational dusts and chemicals, cold weather etc. COPD being a chronic progressive disease with irreversible changes needs early diagnosis and proper management. An extra care of diet, diet pattern modification and life style modification (*Patha-Apathya*) with Yogic procedures play major role in the prevention and progression of COPD.

REFERENCES

1. Textbook of Davidson's principles and practice of Medicine edited by Brain R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman, Churchill Livingstone Elsevier, 22nd edition, 2014; 673.
2. Textbook of Robbins Pathologic Basis Of Disease, edited by Ramzi S. Cotran, Vinay Kumar, F.R.C.Path., Trucker Collins, W.B.Saunders Company, 6th edition, reprinted, 2001; 707.
3. Textbook of Davidson's principles and practice of Medicine edited by Brain R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman, Churchill Livingstone Elsevier, 22nd edition, 2014; 646.
4. Madhava-Nidana (ROGAVINISCAYA) Ayurvedic Clinical Diagnosis, edited by G.D. Singhal, S. N. Tripathi, K.R. Sharma, Chaukhamba Sanskrit Pratishthan Delhi, reprint, 2010; 99.
5. Textbook of Davidson's principles and practice of Medicine edited by Brain R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman, Churchill Livingstone Elsevier, 22nd edition, 2014; 674.
6. Madhava Nidanam of Shri Madhavakara, Revised and Edited by Yadunandana Upadhyaya, Chaukhamba Prakashan, Varanasi, vol-1, Reprinted, 2016; 325.
7. Madhava-Nidana (ROGAVINISCAYA) Ayurvedic Clinical Diagnosis, edited by G.D. Singhal, S. N. Tripathi, K.R. Sharma, Chaukhamba Sanskrit Pratishthan Delhi, reprint, 2010; 103.
8. Textbook of Davidson's principles and practice of Medicine edited by Brain R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman, Churchill Livingstone Elsevier, 22nd edition, 2014; 674.
9. Caraka Samhita of Agnivesa, edited by Pt. Kashinatha Sastri, Dr. Gorakha Natha Chaturvedi, Chaukhamba Bharati Academy, Varanasi, Reprint: Year, 2001; 710.
10. Madhava-Nidana (ROGAVINISCAYA) Ayurvedic Clinical Diagnosis, edited by G.D. Singhal, S. N. Tripathi, K.R. Sharma, Chaukhamba Sanskrit Pratishthan, Delhi, reprint, 2010; 104.
11. Textbook of Davidson's principles and practice of Medicine edited by Brain R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman, Churchill Livingstone Elsevier, 22nd edition, 2014; 675.
12. economictimes.indiatimes.com/magazines/panache.
13. Review Article- International Journal of Ayurveda and Pharma Research / July 2018/ Vol6/ Issue7, ISSN: 2322- 0902 (P), ISSN: 2322-0910 (O).