Utility of homoeopathic medicines in treating cases of chronic obstructive pulmonary diseases

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Abstract
Chronic Obstructive Pulmonary Diseases (COPD) is a significant cause for morbidity and mortality worldwide. Exposure to tobacco smoke and other pollutants are the major causes responsible for COPD. There are various factors recognised that increase the risk for development and progression of COPD. Various imaging techniques and advances in omics helps in understanding the pathobiology of COPD, which further help in prevention and treatment of COPD. Patients of COPD immensely suffer from occurrence of COVID – 19, they are severely affected by Obstruction in the air way passage and have serious disease manifestations. Poor healthcare delivery and social isolation also affects people who have COPD and also suffered from COVID-19. This article will give you an insight of COPD, with emphasis on epidemiology, pathophysiology, imaging, diagnosis and homoeopathic treatment in cases of COPD.

Keywords: Chronic Obstructive Pulmonary Diseases (COPD), dyspnea, smoking, bronchitis, bronchiectasis, asthma, emphysema, cough.

Introduction
COPD is defined as group of symptoms related to respiration, it is represented as a persistent and irreparable obstruction of the flow of air in the lungs. Hindrance in the airflow is the primary indication of this disease due to which the patient is not able to breathe without any extra effort. Some major indicating symptoms which affect the day to day activities of the patient and subsequently decrease the quality of life are chronic cough, wheezing and difficulty in breathing.

Aetiology
Risk Factors: Knowledge of risk factors which results in COPD is very important for preventing this disease and also the early intervention of this disease. There are several causative factors which are responsible for the development of COPD, and among these all factors smoking is the most important factor which causes obstruction in passage of air.
1. Cigarette smoking: COPD is primarily caused by smoking cigarettes, which leads to majority of cases. The airways and lung tissue is damaged from toxic chemicals present in tobacco smoke, this leads to inflammation and changes in the structure of air passage that causes airflow limitation.
2. Exposure to environmental agents: Presence of Pollutants in air, occupational dusts, and fumes, are some of the few environmental factors which can cause the development of COPD. Respiratory diseases are more common in both the urban settings as well as the industrial settings where people are more exposed to the pollutants.
3. Genetic Predispositions: Apart from smoking and environmental factors COPD is also common in individuals where there is a family history of respiratory diseases. The susceptibility of patients is high towards COPD if they have some family history of respiratory diseases. Both genetic and environmental factors play an important role in development of COPD.

Types of COPD
1. Chronic Bronchitis: Chronic bronchitis is a common condition defined clinically as persistent cough with expectoration on most days for at least three months of the year for two or more consecutive years.
2. **Emphysema**: The WHO has defined pulmonary emphysema as combination of permanent dilatation of air spaces distal to the terminal bronchioles and the destruction of the walls of dilated air spaces.

3. **Bronchial Asthma**: Asthma is a disease of airways that is characterised by increased responsiveness of the tracheobronchial tree to a variety of stimuli resulting in widespread spasmic narrowing of the air passages which may be relieved spontaneously or by therapy.

4. **Bronchiectasis**: Bronchiectasis is defined as abnormal and irreversible dilatation of the bronchi and bronchioles (greater than 2 mm in diameter) developing secondary to inflammatory weakening of the bronchial walls.

**Pathophysiology of COPD**

The events which occur in pathogenesis of COPD are inflammation of the airways, lung parenchyma and pulmonary vasculature accompanied by oxidative stress and imbalances in protease antiprotease activity. In emphysema, the destruction of alveolar sacs happen which causes obstruction in the air passage. Inflammation starts by the effect of smoking and other irritants which leads neutrophils and macrophages to release inflammatory mediators, oxidants, and excess proteases due to which there is destruction of the air sac and breakdown of elastin, resulting in obstruction in the flow of air during exhalation.

Not very significant cause of emphysema is deficiency of Alpha-1 antitrypsin enzyme which leads to lack of antiproteases causing inflammation of the lower lobes of lungs and subsequently damaging the liver. Decreased forced expiratory volume (FEV1), destruction of tissue, limitation of airflow and impaired gas exchange are caused due to COPD. Imaging depicts elevation of the carbon dioxide levels and hyperinflation of the lungs. Progression of this disease causes impairing of the exchange of gases, reduction in ventilation, and increase in the physiologic dead space which leads to retention of CO₂. Hypoxemia-induced vasoconstriction is the main cause of pulmonary hypertension.

**Clinical manifestations of COPD**

Chronic obstructive pulmonary disease (COPD) depicts a wide range of clinical features, which mainly involves some sort of difficulty in respiration and obstruction of airflow.

1. **History of Tobacco smoking**: It is the most significant cause of COPD. History of tobacco smoking can be found in most of the patients of COPD, most of them consume at least one pack a day for 20 years. The duration of tobacco smoking and intensity of symptoms are inter-related to each other.

2. **Cough**: Cough with or without expectoration typically in morning, usually is the main symptom in the early stages. Cough severity does not indicate the severity of functional impairment in COPD.

3. **Production of sputum**: Scanty and mucoid sputum is typically persistent in cases of COPD, but sometimes in acute exacerbations purulent sputum may be present. There may be occasional appearance of blood streaked sputum.

4. **Exertional dyspnoea**: Depicted as increased effort to breathe, heaviness in the chest, exertional dyspnoea may be insidious or progressively persistent

5. **Wheeze**: Presence of wheezing is not necessarily an indicating symptom for the severity of disease.

6. **Other symptoms**: Tightness of chest, depression, anxiety and disturbance in sleep may also be present.

**Diagnosis**

Assessment of Chronic Obstructive Pulmonary Disease (COPD) is through spirometry which is helpful in assessment of patients with relevant symptoms and risk factors. Diagnosis is also done by doing Pulmonary Function Tests (PFT) which proves to be very useful in monitoring and staging of COPD. In PFT, pre-and post-bronchodilator spirometry is done using short-acting beta2-agonists or anticholinergics. COPD is confirmed when forced expiratory volume in one second to forced vital capacity (FEV1/FVC) ratio less than 0.7.

**Homoeopathic Approach in cases of COPD**

Following are some Homoeopathic Medicines which proves to be very effective when given with symptom similarity in cases of Chronic Obstructive Pulmonary Diseases (COPD)

- **Ipecacuanha**: Patient has affected by cough which is dry and spasmodic, chest feels as if constricted. Patient feels difficulty in breathing even from least exercise, violent dyspnea is accompanied by wheezing and anxiety about the stomach. Whooping cough especially in children. Bleeding from nose and mouth is a prominent symptom.

- **Antimonium tartaricum**: The keynote of this remedy is “when the patient coughs there appears to be a large correction of mucus in the bronchi; it seems as if much would be expectorated, but nothing comes up”.

- **Arsenicum album**: Patient suffers from asthmatic breathing. Patient have to sit and bend forward for proper breathing. Suffocation increases when the patient lies down on the bed.

- **Hepar sulph**: Patient complains of aphonia and cough when he is exposed to dry and cold wind. Dry, hoarse cough is significant. Cough excites when any particular part of the body gets uncovered or due to exposure of cold. The chief characteristic of cough is that it is choking and suffocative.

- **Belladonna**: Patient feels oppressed respiration with short and dry cough worst at night. Hoarseness with aphonia without any pain is significant. Characteristics of the cough of this remedy is that it is barking and whooping cough accompanied by pain in stomach before the attack of cough and haemoptysis.

- **Kalium bichromicum**: The cough is metallic and hacking in nature with hoarseness of voice. The characteristic of cough is that it is profuse and yellow expectoration which is very glutinous and sticky. Cough is accompanied by pain in sternum which extends toward shoulders and the pain is worse during undressing.

- ** Lobelia inflate**: Patient feels dyspnoea resulting from constriction of the chest which got worst by any exertion. Oppression of chest is significant. The patient feels better by walking. Attacks of asthma are prominent with weakness in the pit of stomach and radiating all over the body.

- **Senega**: Hoarseness is significant. Pain in the back accompanied with coughing. Cough always ends up with a sneeze with rattling in the chest. Bronchial catarrh with profuse mucus with sensation of
oppression and weight on chest. It is difficult to expectorate tough and profuse mucus. Pleurisy and Hydrothorax are also found in the patients.

- **Aconitum napellus**: Oppressed breathing in patient by merely any movement. Hoarse, dry and croupy cough is significant. Cough is dry, hacking, and short, usually occurs after midnight and is worse at night. Blood comes up while coughing. Shortness of breath with tingling in chest after coughing.

- **Bryonia alba**: Patient complains of dry cough usually occurs at night worst after eating and drinking. Cough is accompanied by vomiting. Pain in chest occurs with expectoration of blood. Patient has a desire to take a long breath. Cough is initiated while the patient comes in a warm room. Cough as if the chest would fly into pieces. The patient must have to support the chest. Brick red coloured tough and stringy expectoration is there.

- **Phosphorus**: Patient complains of laryngitis. Patient is unable to talk because of laryngitis. Patient is unable to talk because of laryngitis. Cough is worse while reading, talking and on exposure to cold air. Racking cough in bronchitis. Chest feels oppressed as if a great weight is placed on the chest. Quick and oppressed respiration. Sputum is rusty, purulent and blood coloured.

- **Natrum sulphuricum**: Patient feels dyspnea and have to hold the chest while coughing. Cough with thick ropy and greenish expectoration. Can be given as a constitutional remedy for asthma in children. Pain is very severe in the lower right side of the chest. Rattling is present in the chest between 4:00AM to 5:00AM.

- **Sulphur**: Difficulty in respiration. Patient wants the windows to be open. Loose cough while talking and in morning with greenish, purulent and sweetish expectoration. Great rattling of mucus is there. Oppression of chest as if some weight is placed on the chest. Pulse is fast in the morning than in the evening.

- **Kali carbonicum**: Patient complains of pain in chest which got worse when he lies on right side. Hoarseness and aphony are significant in this remedy. Patient feels stitching pain in chest accompanied with cough aggravated at about 3:00 AM. Whole chest is very sensitive from bronchitis. Expectoration is increased by eating anything and especially in the morning. Coldness of chest is accompanied by wheezing.

- **Cuprum metallicum**: Patient complains of cough with gurgling sound. Cough got ameliorated by drinking cold water. Spasms and constriction of chest is aggravated at about 3:00 AM. Asthma alternates with vomiting. Dyspnoea occurs before menstruation accompanied by epigastric uneasiness.

**Conclusion**

From the above discussion this is proven that homoeopathic medicines have a marvellous effect when given with right indications in the cases of Chronic Obstructive Pulmonary Diseases (COPD). Along with tinctures constitutionally selected homoeopathic medicine and selection of potency and repetition according to the principles of homoeopathy will help in providing cure to the patient. Along with medicine healthy and nutritious diet, physical exercises and avoidance of smoking and products that will accelerate the obstruction of the passage of airflow is also important for getting a permanent cure from COPD.

**Conflict of Interest:**
Not available

**Financial Support:**
Not available

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