



Emphysema

Emphysema is a disease of abnormal and permanent enlargement of the air spaces distal to the terminal non-respiratory bronchioles, accompanied by destructive changes of the alveolar walls. The disturbance of lung function results in loss of elastic recoil, airways to collapse on exhalation, and chronic airflow obstruction. Most individuals are diagnosed with emphysema after several pulmonary function tests.

There are four main types of emphysema. Panacinar emphysema is when all alveoli within the acinus are affected to the same degree. This type is seen in emphysema associated with alpha1-antitrypsin deficiency and unilateral hyperlucent lung syndrome. In centriacinar emphysema, alveoli arising from the respiratory bronchiole or the proximal portion of the acinus are most affected. In paraseptal emphysema the enlarged air spaces are located at the periphery of the acinus. Lastly there is irregular emphysema which forms in the vicinity of scars.

Cigarette smoking is the most important etiologic factor in the development of both emphysema and chronic bronchitis. Emphysema is rare in those who've never smoked. Other factors may include that of environmental air pollutions and hereditary deficiency of alpha1-antitrypsin.

Patients with emphysema usually present with shortness of breath and scant sputum production. They may have barrel-shaped chests and use pursed-lip breathing even at rest. Shoulders are frequently rounded because of shortening of the pectoral muscles. The typical type A COPD patient, one with a predominately emphysematous component, is called a "pink puffer".

Medical treatment may include most importantly cessation of smoking and prevention of respiratory infections. Also, prophylactic immunizations against influenza and pneumonia are recommended. Emphysema can last up to 20 to 40 years of life in the absence of airway obstruction. Prognosis for the patient with emphysema is better than that of someone with chronic bronchitis.

