

Asthma and Homoeopathy

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Definitions

Clinical Definition

Asthma is a clinical syndrome defined physiologically by episodic reversible airway narrowing (Psora) and hyperresponsiveness of the airways to a variety of stimuli (Tubercular).

Pathological Definition

It is defined pathologically by the presence of certain recognizable microscopic features including infiltration of the airways with eosinophils (Psora), hypertrophy and hyperplasia of airway smooth muscle (Sycosis), hypertrophy and hyperplasia of mucous secretory apparatus (Sycosis), and overall thickening of the airway wall (Sycosis).

Prevalence

It affects men and women equally. The prevalence of asthma below age 20 is greater than that above age 20.

Mortality

Mortality rates from asthma are difficult to estimate because of the difficulty of establishing asthma as the cause of death.

Pathophysiology

Alterations in Airway Constitutive Cells

Both hyperplasia and hypertrophy of the airway epithelial cell layer (Sycosis) are present in asthma and contribute to the thickening of the airway wall (Sycosis). Within the epithelial layer there are increased numbers of surface secretory cells (Psora) as well as hypertrophy and hyperplasia of airway mucus glands (Sycosis). Thickening of the airway smooth muscle layer (Sycosis) also occurs. These changes result not

only in thickening of the airway wall, which promotes airway hyperresponsiveness (Tubercular) on a simple mechanical basis, but also in an altered phenotype of the resident cells, which produces a microenvironment whereby activating stimuli enhance the production of proinflammatory mediators and cytokines (Psora). These mediators and cytokines in turn contribute to the airway obstruction and hyperresponsiveness (Tubercular) that characterize asthma.

Infiltration by Inflammatory Cells

The airway wall in asthma is infiltrated by T lymphocytes (Psora).

Alterations of the Noncellular Component of the Airway Wall

The airway wall is thickened (Sycosis) in asthma. The basement membrane is increased in thickness (Sycosis) and exhibits alterations in the structure of its collagen components (Psora); such thickening promotes airway obstruction and hyperresponsiveness (Tubercular). Liquid that infiltrates the airway wall and surrounding tissues as a result of local inflammation (Psora) further amplifies airway obstruction.

CLINICAL PRESENTATION

Acute Asthma

During an acute asthmatic episode, the patient experiences airway obstruction that causes symptoms of breathlessness (Psora) and anxiety (Psora), commonly accompanied by wheezing (Sycosis) and on occasion cough (Psora). The resolution of these symptoms and physical findings usually occurs within 1 to 3 days without specific therapy and may occur within hours if specific therapy is given. During the intervals between episodes of airway obstruction, airflow is normal, and the patient is asymptomatic.

Exercise-Induced Asthma

Individuals who exercise for brief periods of time, on the order of 15 to 20 min, commonly develop airway obstruction after the cessation of exercise. Obstruction usually begins 5 to 10 min after the completion of exercise and resolves in 1 to 4 hrs.

Allergen-Induced Asthma

It results from the direct effects of mediators released from inflammatory cells as a consequence of clustering of IgE receptors on the surface of effector cells (Psora). Common allergens inducing asthma are cat allergen (Fel D1), house dust mite allergen (der P1), and tree and grass pollens.

Virus-Induced Asthma

Many individuals with a history of asthma will be relatively asymptomatic until they contract a viral illness, when asthma may occur without other known inciting stimuli.

Aspirin-Induced Asthma

Approximately 1% to 10% of patients with moderate-to-severe asthma have aspirin-induced asthma, which consists of symptoms of moderately severe airway obstruction, rhinorrhea, sneezing, tearing, dermal changes, and, in some patients, GI changes (cramping, nausea, or vomiting).

Acute Severe Asthma

Acute severe asthma is a more severe and prolonged version of an acute asthmatic episode.

Chronic Stable Asthma

Chronic stable asthma is the name given to the syndrome characterized by episodes of asthmatic symptoms and airflow obstruction that recur.

PHYSICAL EXAMINATION

Vital Signs

Patients with asthma have tachypnea (Psora), with respiration rates often 25 to 40 breaths/min, accompanied by tachycardia (Psora), with pulse rates of about 100 as well as pulsus paradoxus (Sycosis), an exaggerated inspiratory fall in the systolic blood pressure (Psora).

Thoracic Examination

During an acute attack of asthma, the chest is hyperinflated (Psora), which can be appreciated on inspection. Percussion of the thorax demonstrates hyperresonance (Sycosis), with loss of the normal variation in dullness from diaphragmatic movement (Tubercular). The cardinal physical finding in asthma is wheezing (Sycosis). Wheezing is commonly heard during both inspiration and expiration; it tends to be louder during expiration.

LABORATORY FINDINGS

Pulmonary Function Testing

Decreased airflow rates throughout the vital capacity are the most common pulmonary function abnormality in mild asthma.

Airway Responsiveness Testing

Airway responsiveness testing measures the bronchoconstrictor response elicited by a standard stimulus.

Arterial Blood Gases

For a patient with a mild attack of asthma, the PaO₂ is usually between 55 and 75, and the PaCO₂ between 25 and 35.

Other Findings in the Blood

Blood eosinophilia on the order of 4% to 8% is common. Elevated serum levels of IgE are often used as an index of the atopic state. Specific radioallergen sorbent tests (RAST) can be conducted to determine the amount of IgE specifically directed against an offending antigen.

Severe cases of asthma can be associated with elevated serum concentrations of aminotransferases, lactate dehydrogenases, muscle creatinine phosphokinase, transcarbamylase, and antidiuretic hormone. Furthermore, therapy with b-adrenergic agonists, may create low serum potassium levels.

Radiographic Findings

In most cases, chest radiographs in patients with asthma are normal. Complications of severe asthma include pneumomediastinum and pneumothorax, which may be detected only radiographically.

Electrocardiographic Findings

In most cases of asthma, the electrocardiogram is remarkable only for sinus tachycardia. In severe attacks right axis deviation, right bundle branch block, P pulmonale, or even ST-T wave abnormalities may occur.

Sputum Findings

Between acute asthma attacks, in the absence of infection, the sputum of patients with asthma is usually clear. During an acute asthma attack, even without infection, the sputum may be green to yellow from eosinophil peroxidase. Asthmatic findings include eosinophils, Charcot-Leyden crystals (crystallized eosinophil lysophospholipase), Curschmann's spirals (bronchiolar casts composed of mucus and goblet cells), or Creola bodies (clusters of airway epithelial cells with identifiable, quite often beating, cilia).

Treatment

ars > sulph. > nux-v. > calad. > nat-s. > lach. > carb-v. > ip. > lob. > sil. etc. are the most similar remedies for asthmatic pathology. Otherwise, the simillimum remedy must be chosen as per Homoeopathic doctrine.

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