6 Differential Diagnosis of Asthma in Adults

Asthma, Occult Asthma, and Pseudoasthma

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Key Points

- Asthma is often under-treated, and sometimes under-diagnosed.
- No single diagnostic test confirms or excludes the presence of bronchial asthma.
- Occult asthma refers to conditions which are basically asthmatic but which mimic other conditions.
- Cough-variant asthma is a common cause of chronic cough that responds well to antiasthma therapy.
- The diagnoses of exercise-induced asthma and nocturnal asthma are commonly missed because symptoms mainly occur after exercise or at night.
- Pseudoasthmatic syndromes are a group of diseases which mimic bronchial asthma.
- COPD, cystic fibrosis, bronchitis, and aspiration syndromes can mimic the symptoms and signs of asthma.
- Patients with carcinoid syndrome and sarcoidosis may have marked wheeze in the absence of true asthma.
- Patients with left heart failure or pulmonary embolus may wheeze similar to asthma.

From: Bronchial Asthma: Principles of Diagnosis and Treatment, 4th ed.
M. E. Gershwin and T. E. Albertson, eds. © Humana Press, Totowa, NJ
Consider an airway tumor or the aspiration of a solid foreign body if there is unilateral wheeze, abrupt onset of wheeze, or a poor response to bronchodilator medication.

An unsatisfactory response to anti-asthma therapy, atypical spirometry, or an abnormal chest radiograph should suggest a diagnosis other than asthma.

Functional disorders may mimic asthma.

Introduction

Asthma can be one of the easiest of diagnoses, and sometimes one of the more difficult. The typical features are recurrent episodes of wheezing, dyspnea, cough, and chest tightness, none of which is specific to asthma. There is no pathognomonic sign on physical examination, and, between attacks, the physical examination may be completely normal. The chest radiograph is usually normal. No single diagnostic test either excludes or confirms the presence of bronchial asthma.

The marked improvement in airway obstruction after administration of bronchodilators (BDs) is a striking feature of asthma, but is not always marked or even present during acute severe attacks.

The diagnosis of asthma is usually made on clinical grounds alone, and, in addition to the features already mentioned, other clues that may be present include nocturnal exacerbation of symptoms, flares on specific exposures, the concomitant presence of allergic rhinitis, and a family history of atopic disorders.

Currently, asthma is underdiagnosed and inadequately treated (1,2). In addition, it is sometimes overdiagnosed, because there are a variety of chest disorders that are, on occasion, mistakenly diagnosed as asthma (3).

Although wheeze is the most characteristic clinical manifestation of asthma, it is not always detectable in the asthmatic patient. It is often absent when the asthmatic process is quiescent, and it is occasionally absent in the most severe attacks, presumably because the patient is unable to generate sufficient airflow to produce the wheeze (4). Conversely, wheezing may be a prominent feature in a number of nonasthmatic forms of diffuse or localized airway obstruction. All that wheezes is not asthma.

Definition of Bronchial Asthma

The most recent “official” definition of asthma was developed by the International Asthma Project: “Asthma is a chronic inflammatory disorder of the airways in which many cells play a role, including mast cells and eosinophils. In susceptible individuals this inflammation causes symptoms which are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment. The inflammation also causes an associated increase in airway responsiveness to a variety of stimuli” (5).

The severity of the airflow limitation and the degree of post-bronchodilator reversibility can be accurately measured by spirometry (6). A significant bronchodilator response (greater than 12% and a greater than 250 mL increase in