Asthma: Pathogenesis, Symptoms and Affected Systems

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Date
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Introduction

Asthma, also by other names; reactive airway disease, obstructive lung disease, and chronic obstructive pulmonary disease affects a large number of people in the world. In America alone, 17 million people, a half of which are children suffer from it. It costs the economy $13 billion per year. Asthma affects the bronchioles, airways of the lungs, by causing an obstruction to exhaled air (Emedicine, 2011). There are several factors that lead to asthma and its symptoms and several systems are affected.

Pathogenesis

Although the exact cause of asthma is not yet known, scientists believe it is caused by interaction of genetics and environmental factors. These factors include:

a) Atopy, inherited tendencies to develop allergies
b) Genetic disposition, one of the parents or siblings is infected
c) Exposure to triggers. These include allergens like molds, dust and animal dander; irritants like perfume, smoke and other chemicals; upper respiratory infections like flu; harmful atmospheric conditions like pollution, cold and dry weather; emotional excitement or stress; physical exertion; sulphites; and menstruation.
d) Specific respiratory infections during childhood
e) Hygiene and sanitation. Improved hygiene over the years has weakened the immune system due to reduced environmental exposure and infections thus increase in atopy and asthma (Emedicine, 2011; NHLBI, 2011).
Signs and symptoms

Symptoms vary from person to person and occur when exposed to triggers. The symptoms are:

a) Wheezing
b) Breathlessness
c) Chest tightness
d) Coughing
e) Difficulty in talking

These symptoms bring about asthma attacks. These attacks vary on severity depending on their frequency and severity of symptoms (Emedicine, 2011).

Systems affected by asthma

a) Respiratory system – Asthma increases the sensitivity of this system to above normal.
b) Immune system – Asthma decreases immunity leading to an increase in sensitivity of the immune system.
c) Nervous system – Asthma leads to an increase in a nerve growth factor, a protein, which leads to increased nerve sensitivity (CDC, 2011).

Conclusion

Asthma is an incurable disease. However, with the proper management like avoidance of triggers and taking medication, the symptoms and severity of attacks can be greatly controlled to lead a normal life.
References


http://www.cdc.gov/asthma/default.htm

