Exercise-induced asthma (EIA)

Cause
EIA occurs when bronchial tubes undergo constriction and inflammation. With exercise, it is hypothesized that the increased intake of drier, cooler air causes the bronchioles to dry out resulting in airway edema, inflammation and bronchospasm. This theory supports the fact that most EIA occurs in cold-weather sports such as ice hockey, figure skating and skiing. In EIB, there is no significant inflammation but mainly bronchospasm.

Athletes suffering from EIA typically feel short of breath, tightness in the chest and will cough or wheeze minutes into aerobic exercise. This often results in underperformance or fatigue during events. Factors that can worsen an EIA event are cool temperatures, poor air quality, high pollen counts, environmental chemicals and respiratory infection.

Diagnosis
The diagnosis of EIA is often made by a detailed history, not only from the patient, but from coaches, parents and workout partners. The athlete usually will have a normal physical examination, with no wheezing on lung field auscultation. One should exclude other diagnoses such as cardiovascular disease, anxiety, deconditioning syndrome and vocal cord dysfunction.

The use of diagnostic and imaging studies is usually reserved to rule out other possible conditions when the athlete is not improving with treatment. For a formal diagnosis of EIA, an exercise challenge test with pre- and post-exercise pulmonary function testing (PFT) can be ordered by a physician. Pre-exercise PFTs are obtained, then the athlete bikes or runs to achieve 85% maximum heart rate for 10 minutes. Post-exercise PFTs are then taken several times during a 30-minute span. A drop of 10% or more from baseline indicates EIA.

Exercise-induced asthma (EIA) could be an underlying condition as to why many active people feel like they are "out of shape" or just can't exercise like in the past. EIA affects 15% of the general population and nearly 90% of active individuals with chronic asthma conditions. Exercise-induced bronchoconstriction (EIB) is also a form of airway hyper-reactivity that can occur without underlying asthma and can affect anyone at any time minutes after exercise.

Asthma - Inflamed Bronchial Tube

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