Monomelic Amyotrophy

Monomelic amyotrophy (MMA) is a disease of nerves, known as motor neurons. They are responsible for controlling voluntary muscles. MMA is seen most often in Asia, particularly in Japan and India. It is much less common in North America.

CAUSES

In most cases, the cause is unknown. But there have been a few published reports linking MMA to traumatic or radiation injury. There have also been a few unconfirmed reports of familial occurrence of MMA.

SYMPTOMS

This disease causes weakness and wasting in a single limb. It is usually an arm and hand rather than a foot and leg. There is no pain associated with MMA. Some physicians think that mild sensory loss may be associated with this disease. But many experts suggest that such symptoms actually indicate a cause other than MMA. MMA occurs mostly in males between the ages of 15 and 25. Onset is insidious. Progression is slow.

The symptoms of MMA usually progress slowly for one to two years before reaching a plateau. They then remain stable for many years. Disability is generally slight. Sometimes the weakness progresses to the opposite limb. There is also a slowly progressive variant of MMA known as O'Sullivan-McLeod syndrome. It affects the small muscles of the hand and forearm. It has a slowly progressive course.

DIAGNOSIS

Diagnosis is made by physical exam and medical history. Electromyography (EMG) is a special recording technique that detects electrical activity in muscles. It shows a loss of the nerve supply, or denervation, in the affected limb. MRI and CT scans may show muscle atrophy. People believed to have MMA should be followed by a neuromuscular disease specialist for a number of months to make certain that no signs of other motor neuron diseases develop.

TREATMENT

There is no cure for MMA. Treatment consists of muscle strengthening exercises and training in hand coordination.

RESEARCH BEING DONE

The NINDS conducts and supports a broad range of research on motor neuron diseases. The goals of these studies are to increase understanding of these disorders and to find ways to treat, prevent, and ultimately cure them.

Research is continually being done to learn more about this problem.
Provided by: The National Institute of Neurological Disorders and Stroke

Document Released: 12/08/2003 Document Re-Released: 11/30/2009
ExitCare® Patient Information ©2011 ExitCare, LLC.