BENEFITS OF EARLY INTERVENTION

Cervical Spondylotic Myelopathy: A Preventable form of Neurological Dysfunction

By: [DR. MICHAEL A. LEONARD]

As a neurosurgeon specializing in spine surgery, I've seen patients who have had devastating neurological injuries from trauma that has left them with a diminished ability to care for themselves and enjoy life. Often this is the result of an event that occurred in an instant. The outcome was often unavoidable; like a car accident. This is in contrast to patients who have a slowly-evolving condition; one that if recognized earlier, could have been treated and the outcome changed. Cervical spondylotic myelopathy, or CSM, is a condition resulting in a slowly progressive neurological decline when not properly diagnosed and treated. By educating both patients and physicians, the symptoms of CSM can be recognized and proper intervention performed before neurological function is impaired.

CSM results primarily from two things: cervical spine stenosis, and cervical spine spondylosis (degeneration). The cervical spinal canal functions as a tunnel through which the spinal cord and nerves transit on their way to their final destinations. The size of the spinal canal can vary from patient to patient. When patients are born with a spinal canal below a certain size, they are at risk from disc bulges and bone spurs causing compression on the adjacent spinal cord. Even with fairly severe spinal stenosis, when patients are young, the relative lack of disc bulges and bone spurs means that a majority of patients will not experience any symptoms. However, as we age, many of us will develop these degenerative changes in the spine and eventually these conditions can become significant enough to cause compression of the adjacent spinal cord, resulting in CSM. The accompanying figures illustrate this. Both patients are in their 60's, but the patient in figure A was born with a normal spinal canal, while the patient in figure B was born with severe congenital spinal stenosis. Although the degree of degenerative changes is not that different between these two patients, the ability to accommodate these changes is vastly different. While the patient in figure A showed no symptoms of myelopathy and didn't require surgery, the patient in figure B had advanced myelopathy resulting in significant loss of function and required a multilevel decompression.

Figure A
This patient was born with a normal spinal canal and showed no symptoms of myelopathy and didn't require surgery.

Figure B
This patient was born with severe congenital spinal stenosis and had advanced myelopathy resulting in loss of function and required a multilevel decompression.

The key to early detection and timely intervention in these patients is to inform both patients and doctors about the signs and symptoms of CSM. Usually the symptoms will manifest initially as mild difficulty with fine finger tasks such as buttoning a shirt, or putting on jewelry. Patients will often have some mild difficulty with their gait early on or experience tingling or numbness of the hands. Sadly, these symptoms don't always get recognized. Often this is because patients don't realize the symptoms they are experiencing are caused by a neurological problem. Since these patients are typically older, their deterioration is often attributed to the normal aging process. Primary care physicians can play a crucial role in making sure their patients receive the care they need by asking questions during routine health screening appointments about the above referenced complaints, and include in their exam several neurological tests to help identify those patients who need additional evaluation. The presence of any sign of myelopathy, such as increased deep tendon reflexes, a positive Hoffman's reflex (reflexive movement of the index finger and thumb when the middle finger is flicked) or the presence of a Babinski reflex (up-going big toe when the sole of the foot is stroked), should always alert the physician that additional investigation is warranted. If diagnosed early, surgery can relieve the compression on the spinal cord and halt the inexorable neurological decline these patients would otherwise suffer.

Michael A. Leonard M.D. is the Director of the Alamo Neurosurgical Institute in San Antonio, TX. He can be reached at (210) 564-8300.