[IMAGE]

Nutrition for Spinal-Cord Dysfunction?

By David Seaman, DC, MS, DABCN

While cervical myelopathy is not a common clinical encounter, it is the most common cause of spinal-cord dysfunction in people over 55 years of age. Essentially, it involves compression of the spinal cord in the neck that inhibits the transmission of neural impulses to the rest of the body.

Symptoms of cervical myelopathy can vary substantially from patient to patient. Some patients may have atypical trunk or lower extremity pain, while others will predominately express low-extremity incoordination and a wide-based gait. Upper-extremity weakness and incoordination may also be present. Paresthesias (tingling, burning, pricking sensations or numbness) may be felt in the upper and or lower extremity. Flexing the neck is the classic position that leads to electric shock sensations.

The suggestion that nutrition may impact the expression of myelopathy may at first seem unreasonable, as myelopathy is described as a mechanically compressive condition, which is true. However, we need to also embrace that human mechanics is really about biomechanics, which includes biochemistry.

A rat model of spondylotic myelopathy was recently utilized to compare outcomes of two diets: a sugar and fat dietary pattern, referred to as the Western diet, and a standard diet supplemented with curcumin from turmeric and docosahexaenoic acid (DHA), which is an omega-3 fatty acid found in fish and fish oil supplements. The respective diets were instituted after surgery and the rats were allowed to eat for six weeks.

At the end of the study period, the curcumin-DHA rats had significantly better gait function compared to those eating sugar and fat. Spinal-cord analysis revealed that the curcumin-DHA-supplemented rats had less lipid peroxidation and thus, less spinal-cord inflammation compared to the sugar- and fat-fed rats. Brain-derived neurotrophic factor (BDNF), normal levels of which are extremely important for brain function, also was less in the sugar- and fat-fed rats. In contrast, BDNF levels in the curcumin-DHA rats was slightly greater than controls.

Fish oil and botanicals, such as ginger, turmeric and boswellia, have anti-inflammatory functions. These beneficial effects appear to occur throughout the body, not just the nervous system. Vitamin D also provides

us with nervous-system and body-wide benefits.

The message to embrace here is not that curcumin and fish oil offer a cure for cervical myelopathy or nerve injury. Rather, the message is that we should all adhere to anti-inflammatory nutritional habits before and after injury, which gives us the best chance for a positive clinical response. We should all consider eating an anti-inflammatory diet and routinely supplementing with fish oil, anti-inflammatory botanicals and vitamin D.

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