

## Neuropathy and Spondylosis

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While in Prague, Czech Republic, in June of 1993, I met a very interesting and learned doctor by the name of C. Chan Gunn, MD. Dr. Gunn was one of the principle speakers at the 6th international symposium in Prague on "Industrial Myoskeletal Disorders." He has made an important contribution toward the treatment of myofascial pain by relating it to a neuropathic origin. He has developed a theory and method of treatment using a dry needling technique into short spastic muscles, which may have a direct relationship to how chiropractic obtains results.

We all see patients with chronic pain that may not be related to a direct inflammatory process, and the examination reveals no hard neurological signs (diminished reflexes, etc.). Gunn states that there are functional and/or structural alterations within the central or peripheral nervous systems, i.e., neuropathy.<sup>1</sup> Neuropathic pain is associated with abnormal nerve function and/or hyperactivity at some level in the pain sensory system.<sup>2</sup>

Gunn feels that while the causes of neuropathy are many, the most common cause is spondylosis. He states that "the spinal origin of neuropathic pain is not always obvious because spondylotic degeneration follows a gradual, relapsing and remitting course that is silent. Pain can arise with no history of trauma, and laboratory, radiological and other tests are unhelpful."<sup>2</sup> Spondylosis, which refers to the structural disintegration and morphologic alterations in the intervertebral disc and pathoanatomic changes in surrounding structures, can eventually cause simultaneous damage to the nerve roots (radiculopathy) and cord (myelopathy). Gunn speaks of a prespondylosis<sup>3</sup> which may be symptomless until trauma occurs. A neuropathy may appear. With an acute injury to a healthy nerve there is no prolonged discharge of pain signals, whereas, the same injury to a neuropathic nerve affected by a prespondylosis can cause a sustained discharge. This may explain why people with spondylosis and no symptoms can have minor injury and the pain can exist beyond a reasonable period.<sup>4</sup>

Because spondylosis increases with age, spondylotic pain is more common in middle-aged individuals. They have accumulated an "injury pool" or an accumulation of repeated major and minor injuries to a segment leading to unresolved clinical residuals, which may or may not produce pain.<sup>4</sup> The most important manifestation of neuropathy, besides sensory and autonomic findings, is the motor sign of muscle shortening from spasm resulting in ropey bands in muscle, which may eventually become fibrotic or focal areas of tenderness called trigger points. Gunn states that in radiculopathy, these tender spastic muscles can be found throughout the myotome, contralaterally, and in paraspinal muscles. Gunn feels that shortened muscles can mechanically stress muscle attachments leading to tendinitis, epicondylitis, and in muscles crossing a joint which can increase joint pressure, upset alignment, cause facet joint pressure, and precipitate pain in the joint, eventually causing degenerative changes.<sup>4</sup> He even believes that shortening in paraspinal muscles acting across a disc space can compress a bulged disc irritating the nerve root. Pressure on the nerve root will cause more spasm and result in further nerve root compression.<sup>4</sup>

In radiculopathic pain, tender muscle bands will appear in myotomal muscles supplied by both the anterior and posterior primary rami. For pain in the knee, Gunn would seek the tender bands not only in the quadriceps femoris muscles but also in the paraspinal muscles at the same segmental levels (L2-L4). He states that while back pain is most common at L5-S1 levels, more often than not, higher segmental levels are involved, frequently reaching dorsal and cervical levels.<sup>4</sup>

While in Prague, Dr. Gunn treated a chronic shoulder problem which I have been complaining of for months without treatment (I hope my associates read this). He first needled my paracervical muscles which were shortened (increased my cervical motion), and then needled the shortened muscles in the shoulder area (infraspinatus). There was an immediate improvement. Since I have been back in the office I have been getting daily cervical adjustments and friction massage to the shoulder area.

While Dr. Gunn was treating my cervical spine he remarked that chiropractic was a great way to treat neuropathy, and we should be very wary about the influence of the medical profession on our method of treatment. Amen. I will finally be playing golf this weekend!

### *References*

1. Gunn CC: Mechanical manifestations of neuropathic pain. *Annals of Sports Med.* 5: 138-141, 1990.
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3. Gunn CC: "Prespondylosis" and some pain syndromes following denervation hypersensitivity. *Spine.* 5: 185-192, 1980.
4. Gunn CC: Treating Myofascial Pain: Intramuscular Stimulation for Myofascial Pain Syndromes of Neuropathic Origin. Seattle, WA, Health Sciences Center for Educational Resources, University of Washington, 1989.

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### *Editor's Note:*

Dr. Hammer will be conducting MPI's seminar on subluxation complex myopathology during a seven-day Caribbean cruise aboard the Cunard Countess on October 2-9. He will conduct his next soft tissue seminar on October 16-17 in Oklahoma City, Oklahoma. You may call 1-800-359-2289 to register for the seminars.

Dr. Hammer's book, *Functional Soft Tissue Examination and Treatment by Manual Methods: The Extremities* is now available. Please see the Preferred Reading and Viewing List on page XX, Part #T-126, to order your copy.

