

Cervical Spondylotic Myelopathy: A Case Report

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ABSTRACT

A case of cervical spondylotic myelopathy is presented, and the literature reviewing its etiology is discussed. Computed tomography is believed to be the most accurate method to use in order to confirm a diagnosis of cervical spondylotic myelopathy. Manip-

ulation of the cervical spine is contraindicated for this condition. (*J Manipulative Physiol Ther* 1986; 9:43-46)

Key Indexing Terms: Cervical Spondylotic Myelopathy, Diagnosis, Chiropractic.

INTRODUCTION

Cervical spondylotic myelopathy is a condition in which the cervical spinal canal is compromised by osteophytes arising from the posterior vertebral bodies and/or the uncinata processes. These osteophytes may be large enough to compress neural structures. The site of origin of the osteophyte will in large measure determine whether the spinal cord, nerve root or both structures are compressed. The cervical spinal stenosis caused by the osteophytic compression of the spinal cord will be manifested by signs of upper motor neuron involvement and reflex changes in the upper and lower extremities, both indications of myelopathy; thus, the condition is properly known as cervical spondylotic myelopathy.

It is important that a chiropractic physician be able to determine when, or when not, to utilize manipulation. In such cases as the one presented in this report, manipulation may be contraindicated; certainly, all who practice manipulative therapy should be made aware of the potential hazards inherent in a case such as this one.

CASE REPORT

An 84-yr-old white male presented for examination at a chiropractic college satellite clinic complaining of right hip pain of 1-wk duration, as well as constipation and low back pain.

The patient had been struck by a car and knocked to

the ground while he was crossing the street, and he had fallen on his right hip. Hospital x-rays taken of the right hip were read as negative.

Neurological examination revealed a left Horner's syndrome with ptosis, pupillary constriction and anhidrosis. The fundus showed arteriovenous nicking and arterial narrowing bilaterally. There was no atrophy or fibrillation of the tongue. All other cranial nerve tests were unremarkable. Muscle reflexes were right biceps, 1+; left biceps, 3+; right triceps, 2+; left triceps, 3+; right brachioradialis, 0; left brachioradialis, 2+; patellar reflex, 4+ bilaterally; achilles reflex, 2+ bilaterally. The following upper motor neuron signs were present bilaterally: Babinsky, Oppenheim, Chaddock, Schaeffer, Mendel-Becterev, Gordon, Hoffman and Tromner. Persistent ankle clonus was seen bilaterally. Fasciculations were noted in the forearm extensor muscles and in the triceps bilaterally. Rigidity was present in the lower extremities, but was absent in the upper extremities. All cerebellar tests were negative. Atrophy of the dorsal interossei muscles was noted bilaterally, especially in the first dorsal. Sensory examination revealed a glove and stocking sensory loss up to the elbows; sensation to the knees was diminished bilaterally. Joint sense was normal, but vibration sense was diminished bilaterally. Light touch and pinprick were diminished in the C5-6 dermatome on the right. The patient walked with a narrow base, stiff-legged gait. All cervical ranges of motion were decreased, but the patient had no neck pain and no pain on swallowing. He walked with a cane and leaned toward the right.

Plain film cervical radiographs showed decreased disc heights from C3 to C6 (Figure 1). There was moderate bony proliferation of the anterior bodies, uncinata proc-

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Figure 1. Plain film lateral cervical radiograph showing spondylosis with posterior and anterior osteophytes.

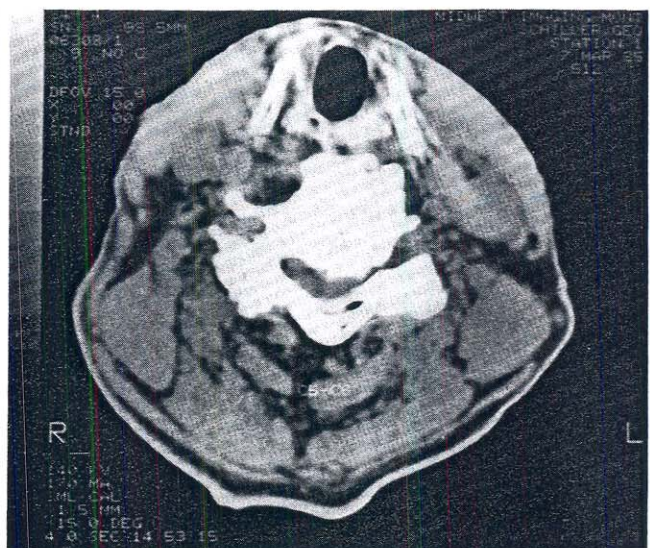
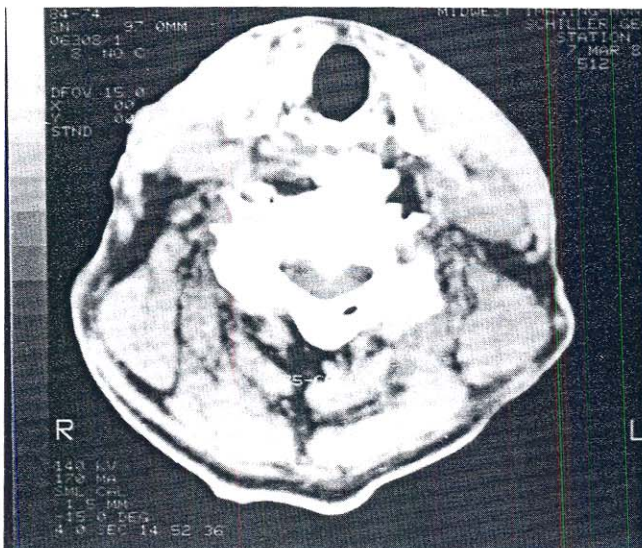
esses and articular processes. Also seen were varying degrees of foramen compromise, which was most pronounced in the midcervical region.

An apical/lordotic view was performed to rule out Pancoast tumor, and this was found to be negative.

Computed tomography (CT) revealed severe osteoarthritic change with accompanying spinal stenosis, especially at the C5-C6 level. Also noted was narrowing of the neural foramina bilaterally, especially at C5-C6 and C6-C7 (Figures 2 and 3).

The patient was referred to a neurologist to determine if a decompressive laminectomy would be beneficial. It was suggested that, due to the patient's age, poor general health and the stage of the disease, surgery should not be performed.

The lateral cervical view is used to measure the sagittal diameter of the cervical spinal canal from the posterior vertebral body or from a posterior osteophyte to the spinous lamina junction (Figure 4). A measure of 12 mm has been documented as being the lower measurement limit of normal (1). The measurement for the patient in the case being presented here was 15 mm from the body of C5 and was 12 mm from the osteophyte at the C5-6 disc space. Hashimoto and Tak (2) state that a measurement of the true sagittal diameter of the cervical spinal canal can be made by use of a perforated metal ruler taped onto the patient's neck behind the spinous processes to be in the midplane of the cervical spinal canal to correct for magnification. He also found that the minimum normal measurement of the true sagittal diameter of the cervical spinal canal



Figures 2 (left) and 3 (right). Computed tomograms of the spinal canal at the C5-C6 disc level showing posterior osteophytes projecting into the spinal canal causing stenosis.

and severe loss of sensation in a glove-and-stocking distribution in the terminal stage. (Patients with amyotrophic lateral sclerosis will present with similar signs and symptoms, which must be ruled out.) Cervical manipulation is contraindicated in this condition. The most accurate method of confirming a diagnosis of cervical spondylotic myelopathy is by a CT scan.

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