AN INTEGRATIVE TREATMENT APPROACH OF A PATIENT WITH CERVICAL RADICULITIS: A CASE REPORT

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ABSTRACT

Objective: To describe a case report of the use of 3 treatment methods for treatment of cervical radiculitis; manual intermittent traction, instrumental chiropractic spinal manipulation, and interferential therapy.

Clinical Features: A 54-year-old man experienced neck and left arm pain with positive orthopedic tests indicating cervical spinal nerve root involvement; he was diagnosed with cervical radiculitis

Intervention and Outcome: The patient received 10 treatments over a period of 8 weeks. Instrumental spinal manipulation, manual intermittent traction, and interferential therapy were integrated as a treatment plan for the patient. The patient's condition appeared to resolve. Outcome measures were evaluated at baseline, weeks 3, 5, and 8. Neck Disability Index scores were 32%, 14%, 8%, and 4% respectively, and the Visual Analog Scales were 8.5/10, 2.0/10, 1.0/10, and 0.5/10. The symptoms of cervical radiculitis was resolved in an 8 week period after 10 treatments.

Conclusion: The integration of instrumental spinal manipulation, manual intermittent traction, and interferential may work well together for patients with similar signs and symptoms as presented in this case. (J Chiropr Med 2005;4:97–102)

Key Indexing Terms: Neck; Radiculopathy; Manipulation, Chiropractic; Treatment Outcome

INTRODUCTION

Cervical radiculopathy is a common dysfunction of the nerve root of the cervical spine.[1] The nerve root can be mechanically distorted, encroached upon or inflamed by cervical facet arthrosis, spondylitic change such as osteophytes on uncinate processes, disc herniations, or pathological factors.[2] Neurological symptoms such as decreased deep tendon reflexes, paresthesias and motor weakness may play a role in patient signs and symptoms. Treatment of cervical radiculitis is aimed at alleviating axial neck pain and referred pain into the upper thoracic area and down the involved upper extremity.

Studies are published comparing surgical intervention versus non-surgical treatment and show favorable non-surgical outcomes.[3,4] Saal et al's longitudinal outcome study of conservative care versus surgically treated patients with cervical radiculitis revealed that 65% were successfully treated conservatively, whereas 35% underwent surgery. Long term comparison of these two groups showed that the conservatively managed group did better with respect to resolution of radiculitis, sensory disturbances, reflex abnormalities, motor weakness, return to occupation, and activities of daily living.[4–6] Surgery is absolutely indicated when there are progressive neurological findings such as myelopathy, progressive weakness, or unremitting pain despite conservative treatment.[2,5]

The purpose of this report is to describe the integration of evidence-based treatments such as intermittent manual traction and spinal manipulation with the Activator Adjusting Instrument (AAI) were used in conjunction with interferential therapy in the treatment of a patient with cervical radiculitis.

CASE REPORT

History

A 54-year-old male experienced complaints of neck pain, left shoulder and medial scapular pain, and radiating pain that traveled down his left arm into his hand. He likened the pain as a wave that would travel from his spine to the left shoulder and arm. The patient stated that he had been experiencing

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this pain in his neck upper back, and left arm after a prolonged treatment at the dentist ten days prior to coming to the office. His pain was not resolving and seemed to be getting worse over time. He was made aware of this case study, and gave written and verbal consent for participation. He had never experienced this intensity of pain in his neck, upper back and left arm; it hurt so much he had to stop what he was doing and wait for the pain to diminish.

The patient recalls dislocating his left shoulder when he was a teenager while playing soccer and he was taken to a hospital in Ghana. He recalls being treated and released, although he said after this injury, and since then, he had been weaker in his left upper arm, especially the triceps. This weakness had not interfered with his activities of daily living, and he continued to be an active soccer player and coach.

Examination

Cervical ranges of motion were (degrees): flexion (45), extension (20), right rotation (40), left rotation (30), right lateral flexion (25), left lateral flexion (15). Upper extremity reflexes were within normal limits bilaterally. Pinwheel exam was negative for abnormality within upper extremity dermatomes. Motor weakness noted in the left triceps was graded fair to good (weakness against resistance while he could maintain a muscle contraction against gravity).[7] Upper arm measurements taken 12 cm proximal from the tip of the olecranon showed a 2 cm difference between arms (right upper arm was 27 cm and the left was 25 cm). The spinous processes at C7, T1, T2, and T3 were exquisitely tender to palpation. Corresponding deep erector spinae muscles were hypertonic and tender to palpation, as were the more superficial upper and middle fibers of the trapezius.

Spurling's test was positive on the left with the reproduction of pain in the neck, down the left upper back and left arm, and down into the left hand. Spurling's was negative on the right. The shoulder abduction sign was positive on the left and negative on the right, and neck distraction was positive in that it reduced the radiating pain down the left arm and upper back. Neck distraction decreased the radicular pain (positive finding), the Valsalva maneuver was negative, ie pain did not increase in the cervical spine or down the left arm. The upper limb tension test was positive, with an increase in radicular pain as the brachial tension was increased on the left side.

Plain film radiographs of the patient's cervical spine demonstrated osteoarthritic changes with disc degeneration at C6-7, and C7-T1, as well as osteophytes anteriorly and posteriorly at these segments. While x-rays are helpful in detecting fractures, bone pathologies, osteophytes and subluxations related to trauma, they have limited predictive value regarding diagnosis on patients with a history of neck pain.[8,9] X-rays alone must be correlated with history and physical exam.[9] The patient's x-rays in this case study correlated to his history and physical exam. Cervical MRI was not recommended because the patient demonstrated improvement after the first 3 treatments.

Intervention and Outcomes

Based upon previously published evidence of treatments for cervical radiculitis,[3,6,10,11] the patient received 10 treatments along with interferential therapy for 8 weeks. Treatments twice weekly were recommended for the first few weeks of care, however, the patient could not comply due to work and family responsibilities. Treatments were consistently the same throughout the period of intervention as a means of standardization.

All treatments began with the patient prone-lying. He received full spinal manipulation with the Activator Adjusting Instrument using the Activator Method. Subluxation patterns such as a left pelvic distortion pattern were particularly noted (relative to his left sided radiculitis) and adjustments were made to the left costovertebral joints (levels 1–4), upper thoracic and cervical spine. The rationale for adjusting the patient first was to attempt to reduce vertebral subluxations and optimize (as best as possible) joint biomechanics, thereby relaxing surrounding cervical hypertonic musculature prior to traction.[12]

Manual intermittent traction was performed for 15 minutes following manipulation. The patient's neck and head were tractioned manually. The pull angle was approximately 25 degrees into cervical flexion, and the tension was manually determined by first removing the slack in the patient's cervical spine, then continuing with the traction so a definite cervical stretch was elicited, and radicular symptoms were eliminated.[13] The pull phase lasted 10 seconds