



Clinical update

Chiropractic outcomes managing radiculopathy in a hospital setting: a retrospective review of 162 patients

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Abstract

Objective: The objective of this study was to gather descriptive information concerning the clinical outcomes of patients with cervical and lumbar radiculopathy treated with a nonsurgical, chiropractic treatment protocol in combination with other interventions.

Methods: This is a retrospective review of 162 patients with a working diagnosis of radiculopathy who met the inclusion criteria (312 consecutive patients were screened to obtain the 162 cases). Data reviewed were collected initially, during, and at the end of active treatment. The treatment protocol included chiropractic manipulation, neuromobilization, and exercise stabilization. Pain intensity was measured using the numerical pain rating scale.

Results: Of the 162 cases reviewed, 85.5% had resolution of their primary subjective radicular complaints. The treatment trial was 9 (mean) treatment sessions. The number of days between the first treatment date and the first symptom improvement was 4.2 days (mean). The change in numeric pain scale between initial and final score was 4.2 (median). There were 10 unresolved cases referred for epidural steroid injection, 10 unresolved cases referred for further medication management, and 3 cases referred for and underwent surgery.

Conclusion: The conservative management strategy we reviewed in our sample produced favorable outcomes for most of the patients with radiculopathy. The strategy appears to be safe. Randomized clinical trials are needed to separate treatment effectiveness from the natural history of radiculopathy.

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Introduction

Little is known about effective treatments for radiculopathy. Consequently, effective management strategies need to be reported and analyzed. Historically, little progress has been made in defining optimal treatment strategies because both surgical and

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nonsurgical approaches are commonplace.^{1,2} Useful information is lacking in regard to identifying what nonsurgical and noninvasive treatment approaches are most effective. Noninvasive treatments that follow a standardized approach, in which every patient follows a similar treatment protocol, need to be analyzed to determine if these are as effective as an approach that is individualized.

The optimal frequency and duration of nonsurgical treatment have not been properly assessed or correlated along with objective information necessary to determine when nonsurgical treatment needs to be discontinued. Because there are no clear data as to the natural history of this disorder (ie, how often a spontaneous resolution of the symptoms occurs), treatment outcomes must be analyzed with caution.

Murphy et al^{3,4} published a conservative treatment protocol that has reported effectiveness. Their nonsurgical, noninvasive treatment approach revolved around spinal manipulation, neuromobilization, and spinal stabilization exercises. Using the noninvasive approach of Murphy et al^{3,4}, this review reports on the outcome of 162 consecutive patients with radiculopathy gathered retrospectively between April 2006 and April 2007 in a hospital outpatient setting.

Methods

This is a retrospective review of 162 consecutive acute and chronic patients diagnosed with an initial “working diagnosis” of either upper extremity or lower extremity radiculopathy between April 30, 2006, and April 30, 2007. Data were extracted from patient medical records backward in time. Three hundred twelve consecutive patients were screened to obtain the 162 cases. Institutional Review Board approval (Peace-Health Medical Group Institutional Review Board study 07-040) was obtained. Advanced imaging and/or electromyogram (EMG) was used but not required of all participants. Inclusion and exclusion criteria are listed in Fig 1.

A primary outcome measure was the numerical pain scale (scale 0-10). This was completed initially and at every follow-up treatment session. Other data gathered included age, sex, current and past medical history including comorbid conditions, duration of symptoms, primary diagnosis, secondary diagnosis, rheumatologic or orthopedic conditions affecting the spine, magnetic resonance imaging (MRI) findings, computed tomographic or plain film findings or EMG, history of surgery, types of previous treatments

Inclusion criteria:

1. Upper extremity pain with or without neck pain with at least a positive Upper Limb Tension Test, and/or
2. Lower extremity pain with or without back pain with at least a positive battery of Sciatic or Femoral Tension Test(s).
3. All patients must remain in treatment for at least one follow up evaluation.

Exclusion criteria were: (any of the below)

1. Radiculopathy by other causes (ie, tumor, infection, or other space-occupying lesions)
2. Severe or acute myelopathy
3. Progressive motor deficit (greater than 3/5 based on neurologic examination)
4. Claudication symptoms determined to be vascular
5. Systemic illness
6. Cancer
7. Blood dyscrasias
8. Vertebral artery disorders
9. Fracture
10. Dislocation
11. Spinal infection
12. Surgical determined at outset
13. Bowel/bladder dysfunction
14. Saddle anesthesia (about the anus, perineum, and genitals)

Fig 1. Inclusion/exclusion criteria.

applied, medications, and complications to any treatment. These data were gathered as part of the usual patient management process.

Each patient was examined with orthopedic tests to verify the specific nerve root involved in the radiculopathy, namely, sciatic, femoral, median, radial, or ulnar. A standard chart note was recorded on every treatment visit. This included the subjective patient pain intensity including location with description as weak, ache, dull, sharp, pins/needles, numbness, burning, stabbing, or other.

Cervical objective data (median, radial, ulnar) collected included the ongoing findings of the upper limb tension test (shoulder abduction angle recorded), Spurling test A, cervical distraction, and cervical rotation. Lumbar sciatic objective data included lumbar flexion (standing tension angle recorded) and passive hip flexion (sciatic tension angle recorded). Lumbar femoral objective data included lumbar flexion (standing tension angle recorded) and passive hip extension (femoral tension angle recorded). Palpatory tenderness included comparative testing between right vs left; anterior/medial scalene, cervical/lumbar spine segments, sacroiliac, and sciatic notch regions.

Interventions on all patients included chiropractic manipulation, neuromobilization, and stabilization

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