Lumbar Disc Extrusion and Severe Sciatic Radiculopathy Treated Successfully with Cox® Flexion Distraction: A Case Study

By
Dr. Paul Greenwood
Vancouver Spine Care Centre,
102-1678 W. Broadway,
Vancouver, BC, V6J1X6
pmgreenwood@me.com

Introduction

Chiropractic treatment of acute sciatic radiculopathy arising from a herniated disc requires an advanced understanding of disc pathophysiology and specialized training in the non-surgical management of this painful, debilitating disorder. This case demonstrates that accurate diagnosis, supportive imaging, appropriate and persistent protocols of care as well as patient compliance are all important in the successful resolution of severe leg pain and disability due to disc herniation.

Presenting Complaint

A 63 year old female housekeeper was referred to my office by family members for a second opinion for severe right leg pain of two months duration. She had been prescribed hydromorphone and gabapentin but found that neither medication gave her any relief. She described her pain as 10 out of 10 on the visual analog scale and reported that she was unable to walk any distance, sit or stand for even brief periods of time without severe pain. She had suffered a similar but less severe injury 2 years prior. Two weeks before her first consultation at my office, her family physician referred her for a CT scan which confirmed an extruded disc at L5-S1 as the likely cause of her leg pain. Although she had suffered back pain in the past, her symptoms were predominately in her leg during this current episode.

During examination, she appeared to be in great pain and pulled her knee up to her chest as she attempted to sit to relieve pain. Achilles DTR were absent bilaterally but were +2 bilaterally for the hamstring and patellar reflexes. Lumbar ranges of motion were within normal limits. Straight leg raise was only mildly positive at 60 degrees for the involved leg, however well leg raising did aggravate her leg pain at 60 degrees. Dejerine's triad was negative. Plantar-flexion and dorsi-flexion strength was preserved at 5/5 bilaterally. Heel toe walk was performed adequately, although short walking distances aggravated her leg pain. Babinski sign was absent bilaterally.

Imaging

A lumbar spine imaging report was provided to me at the time of the first consultation and the pertinent findings were, "focal moderate-sized paracentral disc protrusion contacting and posteriorly displacing the traversing right S1 nerve root. There is no spinal stenosis or neural foraminal narrowing". (Figures 1 and 2) The disc protrusion was measured 8.7 mm wide by 5.3 mm deep (anterior to posterior). The vertical dimension of the disc was estimated to be greater than 10 mm.

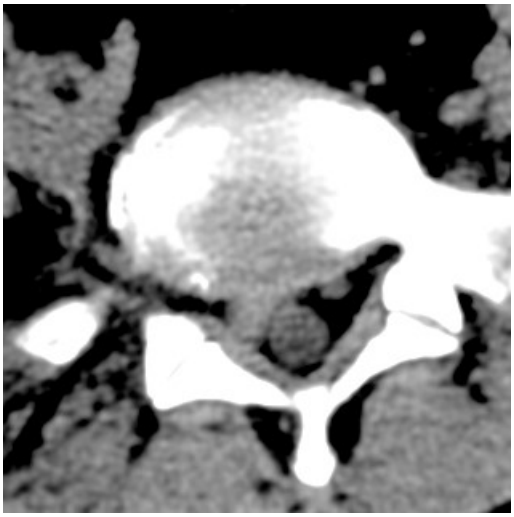

Figure 1. Axial CT L5-S1

Figure 2. Sagittal Lumbar CT

Diagnosis

L5-S1 right paracentral disc protrusion with severe right S1 radiculopathy.

Treatment

Cox® Flexion Distraction Protocol 1 was initiated (Cox, 1999), along with low volt galvanism applied to the L5-S1 disc and to the right retro-trochanteric bursa for 10 minutes each. Ice was also applied to painful areas and recommended for home use. Our preference would have been daily treatment until 50% improvement was realized, however due to driving arrangements, we agreed to 3 visits per week. Within 5 visits, distal leg pain abated and began to centralize to the right posterior thigh, although pain was still quite severe when walking. Protocol 2 was then applied to the patient's tolerance. We continued to apply low volt galvanism and introduced tetanizing current for painful trigger points in the posterior pelvis and upper thigh. Despite her pain, she remained very co-operative and stoic, and she was adamant that she had every confidence in our care. Her family supported her decision to see us and assisted her as required.

At the eighth visit, she reported that her pain had reduced to a VAS 4 at rest but walking for 5 minutes would increase her pain significantly. She was advised to perform knee to chest stretching exercise and hamstring stretching several times per day to assist in the recovery. She was also prescribed chondroitin in the form of Green Lipped Mussel oil for disc support.

Case Outcome

Protocol 2 was continued at two times per week, and with each visit she reported gradual improvement. During her 14th treatment at 8 weeks of care, she reported that her pain had reduced to VAS 1 and walking was becoming easier. She was very pleased with this outcome and has agreed to continue supportive care at weekly intervals to improve her condition further with the goal of preventing relapse. Additional strengthening exercises have been prescribed and she is encouraged to walk further to her tolerance.

Discussion

The goals of the Cox® Technic are to increase disc height, lower disc pressure, increase IVF size, restore physiologic ranges of motion of spinal joints, and to restore afferentation within the nervous system. Four of these effects have been demonstrated in human cadaveric research and the protocols of care are derived from previous clinical studies (Cox, 1999). The clinicians in this case are Cox® certified and utilize Cox® adjusting instruments in the application of technique. It is important to acknowledge the patient's subjective symptoms and to constantly encourage treatment compliance.

Extruded lumbar discs may present with leg pain as the predominant symptom due to chemical irritation of the dorsal root ganglion at the level of extrusion. Early treatment of this inflammatory cascade is important to prevent long term damage to the nerve that is related to ischemia, edema, fibrosis and ultimately de-myelination.

Conclusion

Cox® flexion distraction manipulation and appropriate therapeutic modalities and exercise, along with patient trust and compliance were all important contributing factors to the successful resolution of severe sciatic radiculopathy in this case. Multiple case reports have been published demonstrating similar benefits from FD technique. Case reports by practicing chiropractors are encouraged and may lead to additional funding of research and the development of best practice standards in the management of severe lumbar radiculopathy.

References

Cox, J. M. (1999). Low back pain: Mechanism, diagnosis, and treatment . (6th ed.) Baltimore: Williams & Wilkins.