



Lateral Zone Lumbar Cyst With Severe Radiculopathy Improved With Cox® Technic Flexion Distraction: A Case Study

presented by

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History and Chief Complaint

A 45 year old Caucasian female with a 5 day history of insidious onset severe right hip, thigh and leg pain and proximal burning pain with distal numbness seeks care at this office. The UBC Hospital Vancouver suspects a L3-4 lumbar disc herniation. A CT scan of lumbar spine at UBC was reported as normal. The patient was prescribed codeine and NSAIDs and referred to this practice by UBC for evaluation.

The patient reports pain with all movement including walking at a 10 out of 10 (10 being the worst pain) as "shooting pain" with a loss of normal sensation that is partially relieved by rest, but sleep is disturbed. She finds it easier to shuffle backwards. She shares a family history of rheumatoid arthritis. Although she has experienced chiropractic care for general wellness in the past, she reports no prior history of leg pain or significant back pain.

Exam

This female of athletic, small build is clearly in distress. All movement is guarded and difficult. Pain is in all ranges of motion of lumbar spine. Pain on palpation at L3 with bilateral musculoskeletal muscle spasm. She has a left short leg. There is pain on palpation at right GOIC bursa and right SI joint with fixation of right SI.

Examination findings are patellar DTR +3 bilaterally, Hamstring and Achilles +2 bilaterally, SLR negative bilaterally, Dejerine's negative, Ely's positive on right leg, Femoral Nerve Tension Test positive right leg at 10 degrees, dorsiflexion and plantar flexion +5 bilaterally, quads and hams +5 bilaterally, Right hip flexor 4/5 with pain, left 5/5 no pain, Loss of pinprick sensation lateral right thigh, Babinski is absent, and visible fasciculations in right anterior thigh mm.

Differential Diagnosis

- L3-4 disc herniation with L4 radiculopathy
- GOIC bursitis
- Iliopsoas bursitis
- Meralgia paraesthetica
- Sacroiliac inflammation
- Intraspinous Cyst
- Tumor

Treatment

Treatment was directed at pelvic and lumbar spine biomechanics as there was no definitive corroboration with imaging. Gentle side-lying manipulation (a modified, very gentle application of Cox® Technic Flexion Distraction [CTFD] used when a patient is either in too much pain to lie prone or is pregnant which allows flexion/extension for the patient by using the lateral flexion of The Cox Table and allows lateral flexion by using the flexion/extension motion of The Cox Table) for Protocol 1, low volt galvanism to right GOIC (Gemelli-Obturator Internus Complex) bursa, and Class 3 laser over anterior thigh is used. The patient is relieved temporarily by

treatment. Her right leg weakens progressively as well as the right hip flexion 1/5 after 4 visits, so a private MRI referral is made.

MRI Imaging

The MRI reveals

- “At L3-4 there is a minor right posterolateral annular bulge with mild right foraminal narrowing.”
- “L5-S1, there is disc desiccation and a focal midline disc protrusion with associated annular tear.”

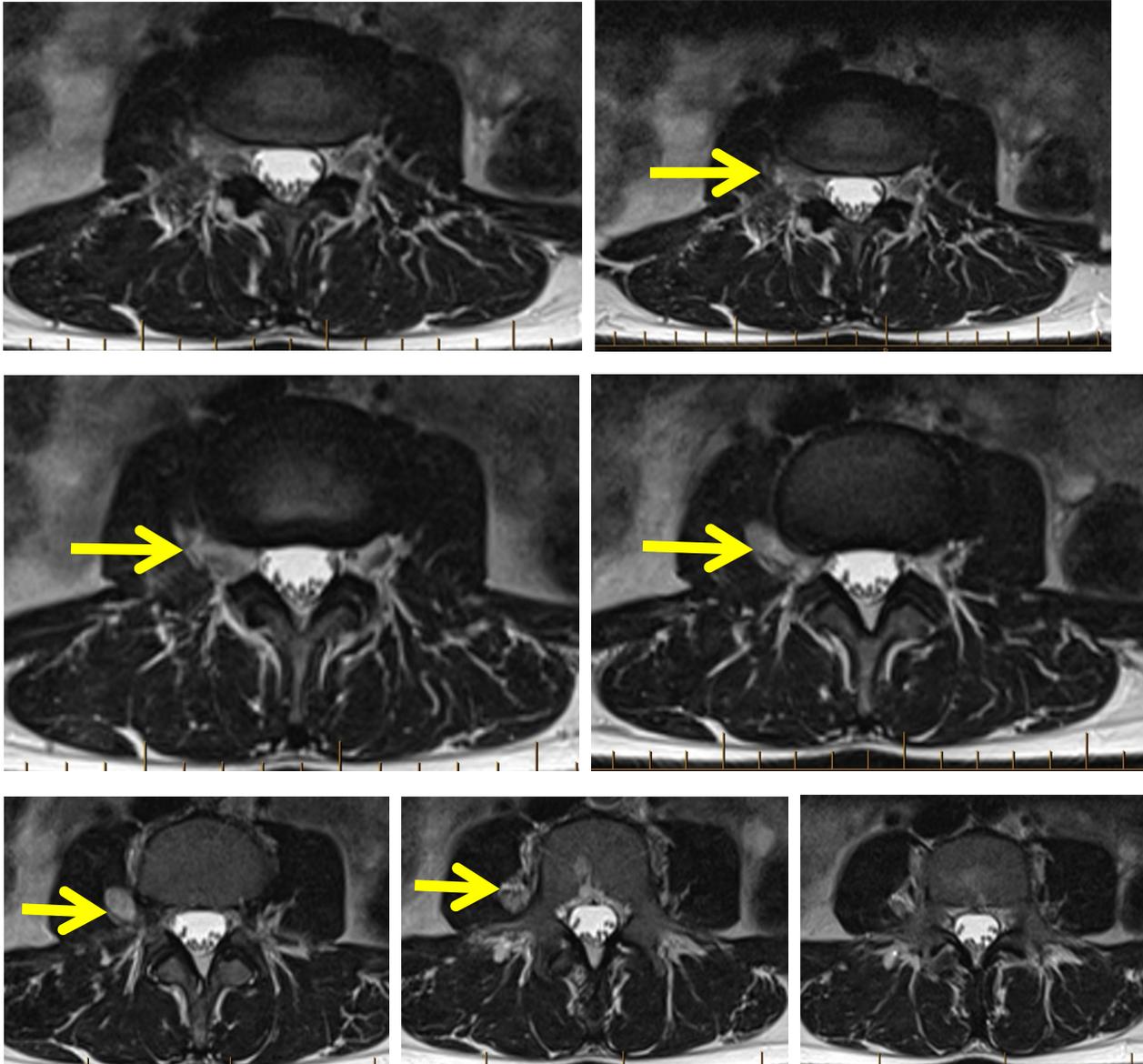


Figure 1. A SERIES of L3-4 Axial T2 - 4mm slices

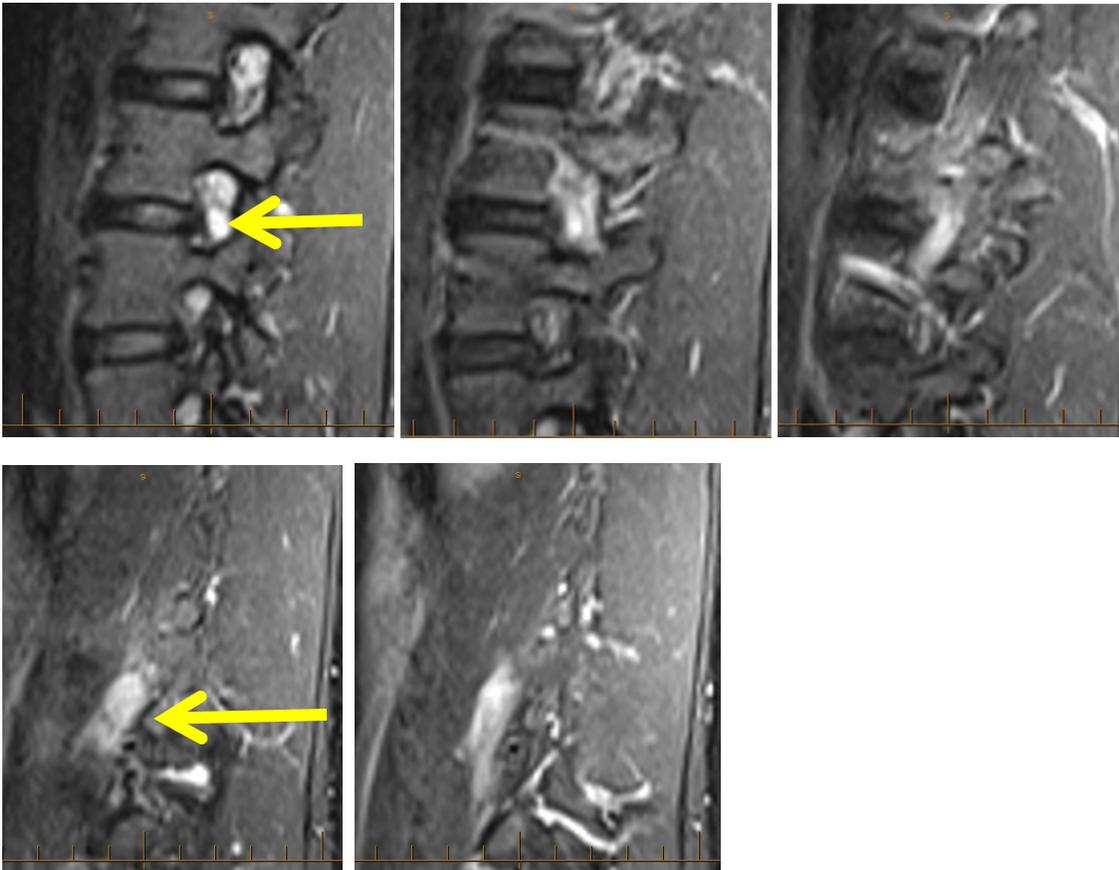


Figure 2. A series of L3-4 Sagittal STIR Images

Short tau inversion recovery (STIR) technique entails an alternative MRI sequence that suppresses the signal intensity of fat and the additive effects of T1 and T2 mechanisms on tissue signal intensity.

Diagnosis

- L3-4 right sided lateral foraminal zone cyst with far lateral and inferior projection
- T2 hyperintensity, T1 hypointensity
- L4 radiculopathy

Modified Treatment Plan

After tolerance testing confirms appropriateness of treatment, CTFD Protocol I in the prone position to tolerance is performed daily until 50% relief with low volt galvanism therapy, knee to chest stretches to tolerance at home, reassurance and close monitoring of weakness, and the intention to arrange a surgical referral if no improvement is noted. Protocol I was used throughout treatment.

Outcome

The patient reports the pain at night is relieved after 2 visits. After 3 more visits, the patient reports much less pain despite persisting numbness in L4 dermatome. At visit 8, the patient reports 0/10 pain and right hip flexor 5/5. Some residual numbness continues but is much improved. The patient discontinued care with 95% improvement.

Discussion

As rare as it is, a ganglion cyst of the posterior longitudinal ligament (PLL) of the spine may result in classical sciatica. (1) It may compromise the lumbar dorsal root ganglion when it's in the IVF even causing severe radiculopathy. (2) Reports further suggest that far lateral extraforaminal synovial cyst should be included in the differential diagnosis of patients with radicular leg pain and exam findings with L5 root compression. (3) Described anatomically as having synovial cell lining in ligamentum flavum of patients with symptomatic lateral or central spinal stenosis, synovial cysts communicate with the facet joint via a bursa-like channel within the ligamentum flavum. Osteoarthritis of these facet joints cause fragments of cartilage and bone to break off and lodge in the walls of the channel forming scar tissue that blocks the channel. (4) Synovial cysts often appear as intraspinal extradural masses next to the facet joint. (5)

Several articles are published reporting on cases of synovial cyst that are well managed conservatively with flexion distraction. (6,7,8,9) Even after patients have tried NSAIDs and gabapentinoid medications for bilateral sciatica and foot drop, patients find relief with Cox Technic flexion distraction. (6) The mechanism of efficacy of flexion distraction is purported to be in the assisting of the drainage of the channel that is blocked by the chiropractic flexion distraction spinal manipulation enhances drainage of the channel from the medial aspect of the facet joint to the ligamentum flavum. (8)

Conclusion

Cox Technic flexion distraction (CTFD) spinal manipulation was effective in this case for the successful management of lumbar cyst with radiculopathy. Ganglion or synovial cyst must be considered in the diagnosis of lumbar radiculopathy, but differentiation is not clinically relevant. MRI is the gold standard for diagnostic imaging and definitive diagnosis. Further studies are needed to determine the efficacy of CTFD for radiculopathy caused by cystic lesions of the spine.

References

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