Cox® Distraction Treatment Of Multi-Level Degenerative Spondylolisthesis With L3-S1 Central And Lateral Recess Stenosis

Submitted by
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HISTORY

Brief Clinical History:

A 70 year old white female presented to the office by patient referral for diagnosis and treatment of persistent low back and right buttock and thigh pain. She described it as aching, sharp and shooting. It was constant and worse with walking standing and lying down. She stated this began one week prior and was brought about walking in sandals. She felt the pain was getting worse, and was in distress. She had a past medical history of recurrent pain similar to this for which she had had physical therapy treatments to no avail. She had been told she has arthritis, osteoporosis and emphysema.

EXAMINATION

Physical Examination:

Observation of the lumbar spine demonstrated a flexion posture. Sitting was the most comfortable position for the patient. There was a step defect in the L5 vertebra on palpation. Pain on palpation is evident from the upper lumbar area bilaterally into the L5-S1 area and along the L4 and L5 myotomes to the right knee. The deep tendon reflexes were absent at the achilles bilaterally and 1+/2 at the patella bilaterally. The muscle strengths were 4+/5 in the lower extremities with the exception of right knee extension and right hip flexion at 4/5. Dermatomal evaluation of the lower extremities demonstrated hypesthesia of the right L4 and L5 dermatomes to the knee. Valsalva sign is negative. Range motion lumbar spine measured at 70 degrees flexion without increased pain, lateral flexion to the right 20 degrees with pain. Left lateral flexion was 25 degrees and painless. Rotation was 10 degrees bilaterally without pain. The patient was unable to

extend the lumbar spine. Recumbant right straight leg raise was bilaterally negative. Seated SLR with coupled Linder's, Bechterew's and Valsalva were negative. Left well-leg SLR was negative. Sacroiliac testing was normal. The hamstrings were bilaterally tight at 35 degrees as is common with spondylolisthesis (1).

IMAGING

X-ray evaluation:

The AP lumbar spine reveals right L3-S1 reactive sclerosis, mild dextrorotatory thoracolumbar scoliosis, and osteoporosis (Fig.1)

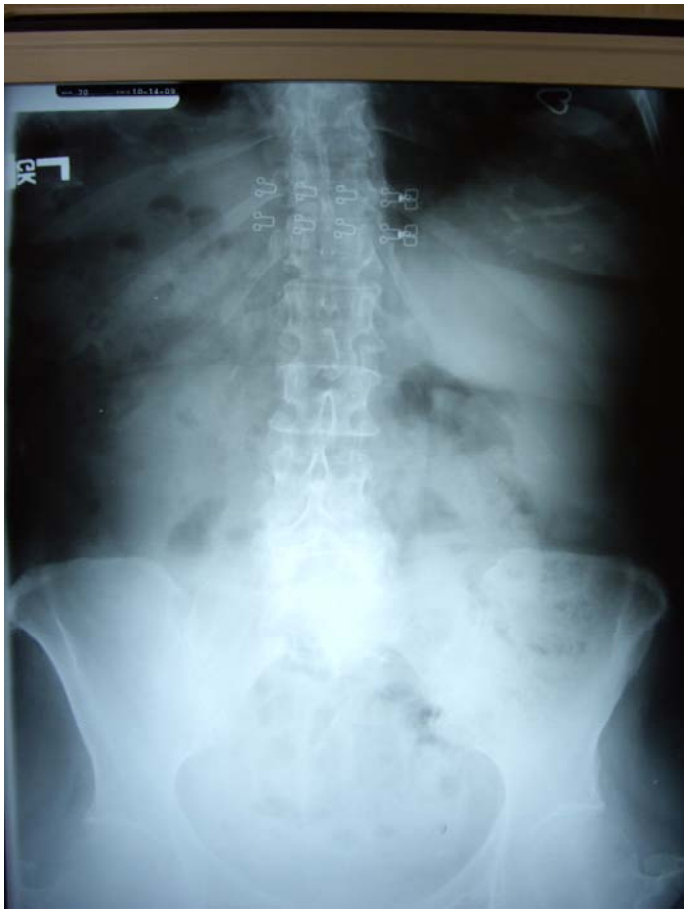

Figure 1

The lateral lumbar demonstrated an L5 (40-50%) 10mm anterior spondylolisthesis (isthmic), an L4 (10%) 7mm degenerative anterior spondylolisthesis, an L3 (20%) 9mm degenerative anterior spondylolisthesis, L2-L3 Baastrup's sign “kissing spinous”, facet lamina sclerosis and advanced atherosclerosis of the abdominal aorta (Fig.2).

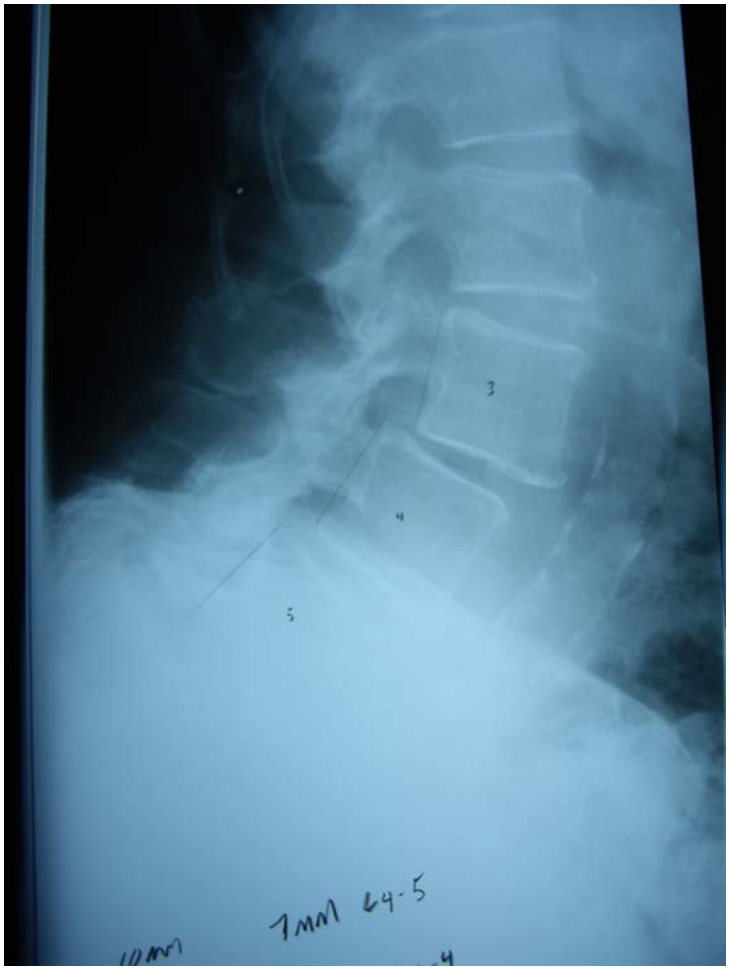

Figure 2

Extension view of the lumbar spine demonstrated L3-4 movement back to 7mm, L4-5 back to 5 mm, and L5-S1 remains unchanged. (Fig.3).

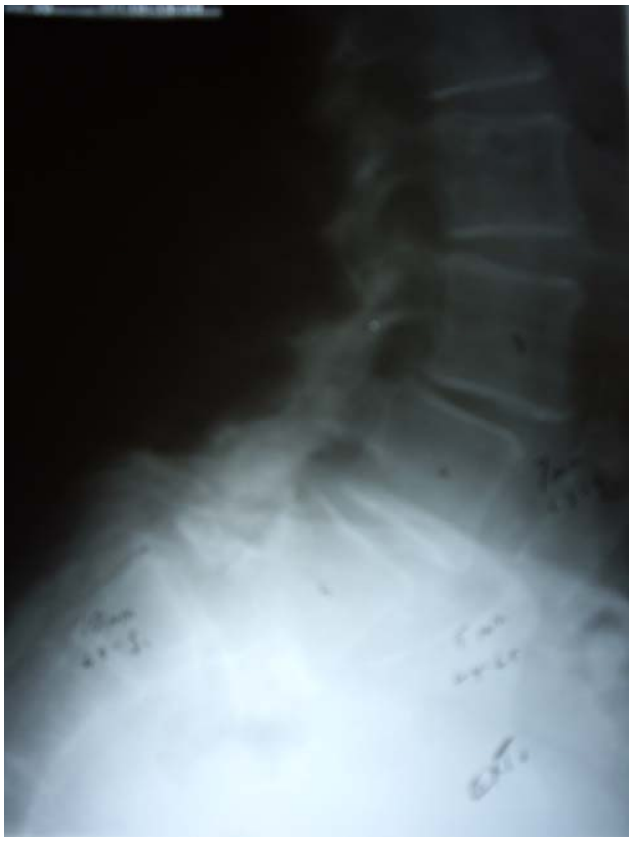

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Figure 3

Flexion view demonstrates L3-4 at 9 mm., L4-5 at 6 mm., and L5-S1 unchanged.

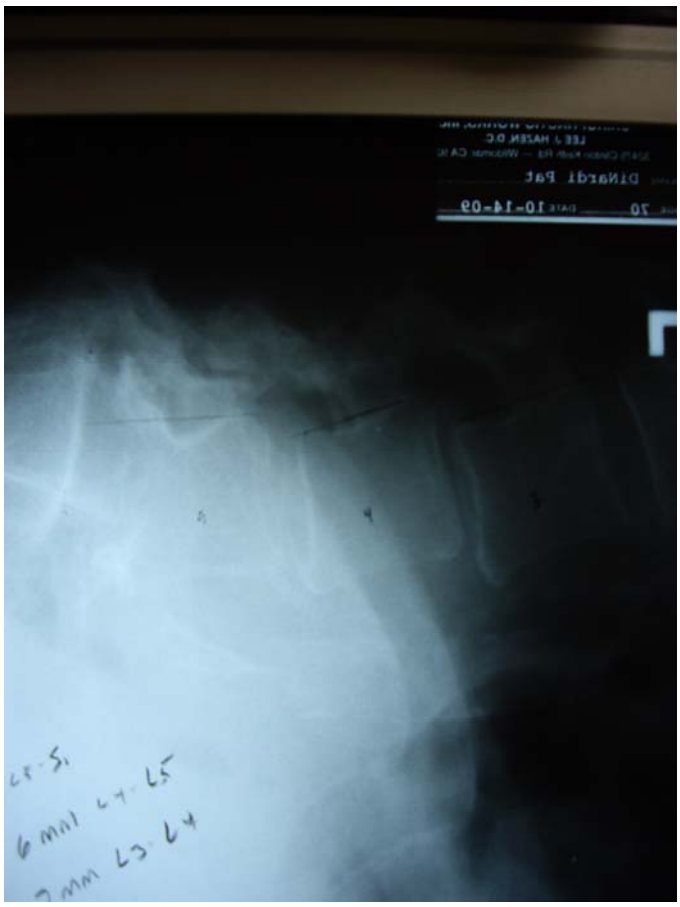

Figure 4

MRI Imaging:

A Lumbar MRI exam without contrast reported the following findings:

1. Grade II/III anterolisthesis with 50% subluxation of L5-S1, and bilateral spondylolysis. A disc bulge in conjunction with the anterolisthesis creates moderate to severe right and moderate left foraminal stenosis with vertical narrowing of the foramen. Chronic fusion of the L5-S1 level.
2. Grade I anterolisthesis of L4-5, severe facet arthropathy, disc bulge with mild foraminal stenosis, worse on the right.
2. Central and foraminal stenosis of L3-4. 2-3 mm disc protrusion with anteriolisthesis. The spinal canal is reduced in caliber with near effacement of the CSF surrounding the nerve roots. The canal measures 5 mm AP representing stenosis. Severe facet arthropathy is present bilaterally.

Impression:

1. Multi-level true and degenerative spondylolisthesis with L3-5 right radiculopathy
2. Severe central and lateral recess stenosis L3-S1.

TREATMENT

Treatment goals:

The initial treatment goals were to relieve the nerve root compression and reduce spinal stenosis with decompression manipulation while substantially reducing the patient's pain. This patient was told that if she had not improved 50% within 4-6 weeks she would need to have further diagnostic evaluation with MRI and/or a possible referral to another physician.

Treatment Methods:

This patient was treated with Cox® Distraction Manipulation (Protocol I). Dutchman roll was necessary due to the patient's small waistline. No physiotherapy was delivered due to the patient wanting to keep the out-of-pocket expenses at a minimum. This patient was given a lumbosacral support to be worn 24 hours per day for the first 1-3 weeks. She was prescribed a glucosamine/chondroitine sulfate (Discat Plus). Cox® lumbar spine exercise program (exercises 1-3) was started immediately.

Treatment began on Oct.12, 2009. She received 3 treatments per week for 2 weeks, and one treatment the next week for a total of 7 treatments.

Treatment Outcomes:

Treatment resulted in temporary relief of the lumbar spine right extremity pain. She stated that the pain would return a few hours after the treatment and was discouraged. She felt that the pain should be relieved after a few visits. She and her husband were paying out-of-pocket and were disgruntled that the treatments were not covered by medical insurance. Because of these unreasonable outcome expectations, and the cost of care, she discontinued treatment and had an MRI. As of this report (5 months later) she continues in pain and has been given medications for the condition and awaits treatment advice from the medical doctors that are covered under her health policy.

Disscussion:

Multi-level true and degenerative spondylolisthesis to this extent is rarer than single level (6%). This case presented with a history of chronicity and failure of diagnosis and treatment with physical therapy. Although on initial examination and report of findings it was made abundantly clear to both the patient and her husband there would be slow progress, they wanted what could not be given. The goal from the outset was 50% overall relief with treatment delivered at 3 per week for 4-6 weeks. They had agreed to this regime, but failed to continue after two weeks when the pain remission was only transient. Cost of care was a large factor in their decision to self-dismiss from treatment. They made it clear to me that if they had to pay out of pocket they expected results quickly.

I have yet to treat a more complicated spondylolisthesis case than this one presented, but if I do, I would hope that I would be given a reasonable opportunity by the afflicted to utilize the full measure of the Cox® Technic and what skills I may possess to afford the relief we both hope for. It has been said that the definition of frustration is when expectations don't meet reality. Surely, this type of case was destined to end in frustration. It is an example of an unusual pathology wrapped in an all too usual circumstance.