COX® DISTRACTION SPINAL MANIPULATION TREATMENT OF A LARGE L5-S1 DISC HERNIATION EXTRUSION

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HISTORY:

This patient is a 38 year old white male, with a chief complaint of low back and left leg pain of 3 months' duration. Ten years previously he had low back pain which healed without treatment. He was doing exercises consisting of pushups and sit-ups, and this progressively has increased his back pain and in the last week has worsened especially in the past two days. The pain is the worst when he sits and less when he stands and walks.

EXAMINATION:

His vital signs show normal blood pressure and pulse rate, he is oriented x3 but is in apparent distress due to his back and left leg pain. He has been taking ibuprofen and has been using heat and ice on his back for relief. He states the pain is a VAS of 10.

Examination reveals a right antalgic list of the lumbar spine, flexion of 20 degrees and extension of 10 degrees. The deep tendon reflexes at the patella and ankle are 2 of 5. Decreased sensation of the left first sacral dermatome is noted on pinwheel and touch examination.

Sitting straight leg raise is very positive on the left side at 20 degrees, Kemp and Braggard signs are positive on the left side.

The clinical impression following physical, orthopedic and neurological examination was an L5-S1 left lateral disc herniation. Figures 1 to 4 are the imaging studies of the case.

Diagnosis: Left large L5-S1 herniated disc extrusion and probable free fragment compression the left S1 nerve root and displacing the cauda equina.

DIAGNOSTIC IMAGING:

Figure 1 and 2 are plain film x-rays of this patient taken on June 3, 2014. These show L5-S1 disc space narrowing with retrolisthesis of L5. Tropism is noted at L5-S1.

Figure 3 and 4 show the large L5-S1 free fragment which fills the left lateral recess and vertebral canal to displace the cauda equina and the left S1 nerve root. This disc measures 13 x 20 x 28 mm in dimension.

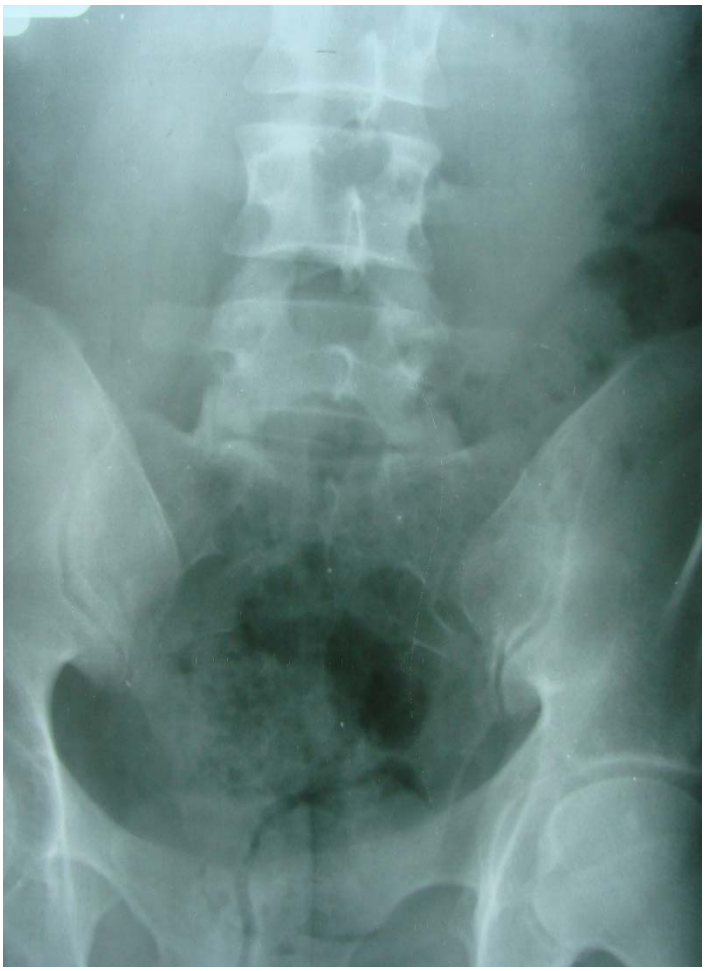

Figure 1. A right list of the lumbar spine is noted with tropism at the L5-S1 level, left sagittal oriented facets and right coronal orientation.

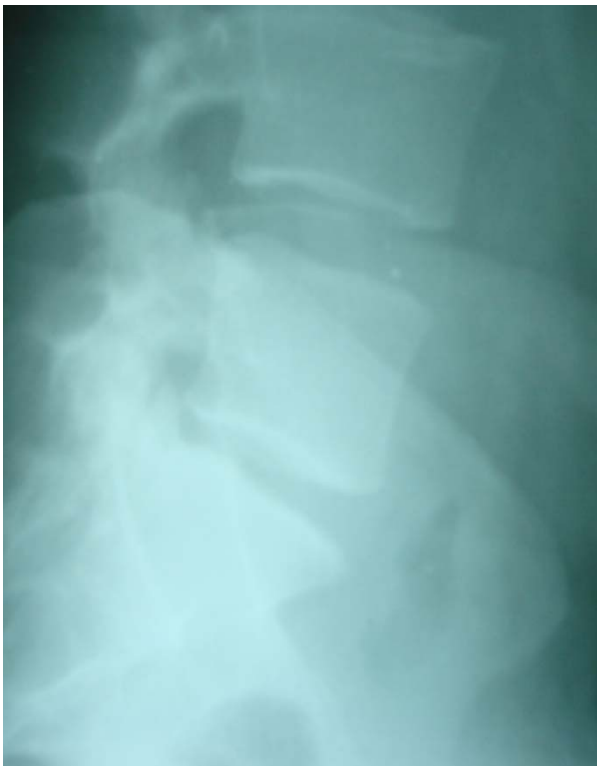

Figure 2. The sagittal curve is kyphotic with retrolisthesis of L5 on sacrum. The L5-S1 disc space is decreased in height without endplate hypertrophic change.

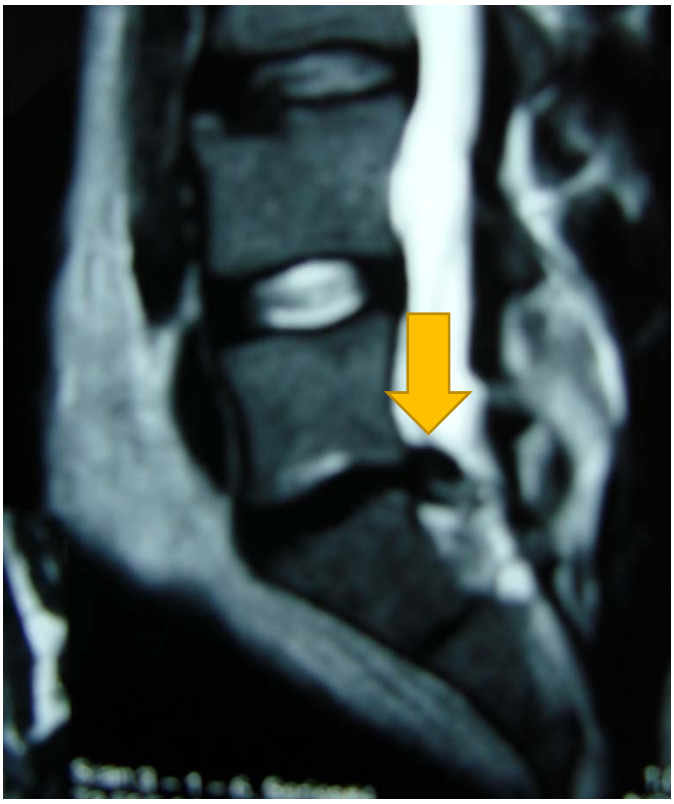

Figure 3. Hypointensity of the L5-S1 disc is noted with a large disc extrusion seen (see arrow) extending into the anterior thecal space and causing spinal canal stenosis is shown.

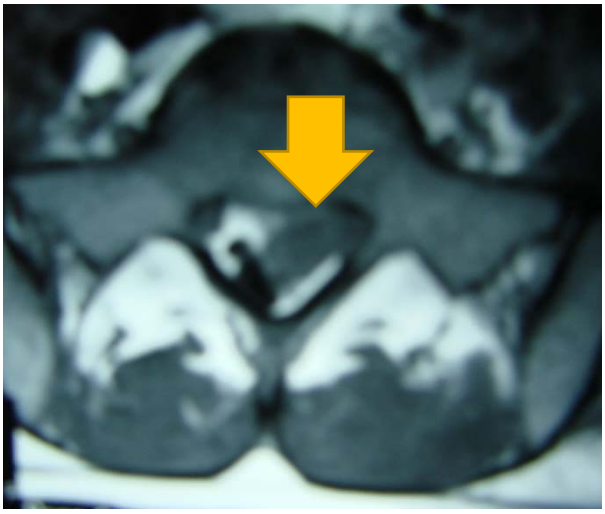

Figure 4. A large disc extrusion and probable free fragment is noted at the arrow. This disc material is contacting and displacing the cauda equine, and the left S1 nerve root is not visible due to the disc material.

TREATMENT:

Protocol I at the L5-S1 disc level was first line treatment started on June 3, 2014. Tolerance testing preceded Protocol I administration. Trigger point therapy to acupuncture points B22 to B54 was given prior to manipulation. Following Cox® distraction spinal manipulation, positive galvanism and tetanizing currents at the involved L5-S1 level was delivered.

CLINICAL OUTCOME:

On June 4, 2014 the patient presented with no calf pain. Do to the marked relief, unattended intermitted distraction was administered while electrical stimulation was given. This electrical stimulation did continue into the left retro trochanteric bursa and sciatic nerve. The patient did report a VAS pain at 7 diminished from 10 in one day.

Patient is seen on June 5, 2014. He is continuing to work which is his decision. The pain is aggravated with standing and working a full day. The VAS pain is 7 to 8. Unattended intermitted distraction with trigger point therapy along with stimulation was administered. Ankle cuffs were used in this treatment.

On June 9, 2014, the pain in the lower extremity on the left had centralized to the left hip. The VAS pain was 6. On this visit, protocol II using lateral bending range of motion was used, along with the usual electrical stimulation. The change in treatment is based on the rule of 50% which states that at 50% relief of pain and objective tests (range of motion, Kemps, Dejerine's triad, and straight leg raise), Protocol II is tolerance tested for and administered. Protocol consists of distraction of the involved spinal level followed by physiological range of motion of the facet joints.

On June 11, 2014, the patient complained of low back and left hip pain as well as burning in the left foot. Neurologically the deep tendon reflexes were plus 2. No motor weakness was noted. The VAS pain in the low back and left hip was 8.

On June 16, 2014, the patient presented with low back pain and left hip pain and weakness on left plantar flexion of the foot and ankle.

The patient was referred and received tramadol and prednisone.

The decision was made to order an MRI. Treatment was given consisting of intermittent distraction and electrical stimulation of the L5-S1 level to the left rertrotrochanteric area and left calf.

Consultation with the insurance carrier was on-going in the case at all times, so they could approve care.

On June 17, 2014, following the MRI shown above, the patients low back, hip, and left leg pain had diminished to a VAS of 2 under the treatment outlined above, namely Protocol 1, early onset Protocol 2, electrical stimulation, trigger point therapy, and ice at home. The drugs mentioned above were also being taken. The left calf showed no further weakening.

On June 18, 2014, the patient continued to have left low back and buttock pain, radiating to the left calf and foot at a VAS of 2-3. No further weakness of the left calf muscle was noted on toe walk. Surge current was applied to the left calf muscles as well at the usual treatment.

On June 19, 2014, the patients low back, left hip and left leg pain to the foot was at a VAS of 2. The left leg weakness was markedly improved and he can now put weight on it and rate it at a strength of 3-4 out of 5. Because of this motor weakness, the decision to seen a neurosurgeon was made.

6-24-14 – VAS pain is 2 at the left buttock and ankle.

6-25-14 – VAS pain is 1 in low back and 2 in left hip and buttock.

6-30-14 – There is increased left calf muscle strength on toe standing.

7-2-14 – VAS pain is 1 at the heel which is the only complaint of pain.

7-7-14 – Left calf strength is 70-80% of right side with VAS pain of 2 and centralized to left buttock.

7-9-14 – VAS pain in buttock is 1 and strength of left calf persists.

After the 7-9-14 treatment, the insurance refused further care due to the patient's relief. This, in my opinion, was not correct advice since rehabilitation for at least 3 months is needed to insure proper ergonomic use of the spine and prevention of future episode recurrence of pain for the patient.

Fourteen treatments with Cox® Distraction Decompression spinal manipulation were given over a 35 day period resolving the L5-S1 disc herniation symptoms and signs.