Double Grade 2 Spondylolisthesis complicated by a Failed Spinal Fusion treated with Cox® Technic

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INTRODUCTION:
Double-level isthmic spondylolisthesis is extremely rare.[1] Surgical treatment typically is a posterior lumbar interbody fusion (PLIF) with either autogenous bone chips or with a cage.[2]

Although little is published on conservative treatment of double spondylolytic spondylolisthesis, Dunn AS, et al. reported a case of a U.S. Marine Corps veteran who was successfully treated with flexion/distraction.[3]

Post-surgical continued pain (PSCP) is pain that persists or returns in the same or adjacent area following spine surgery (aka failed back surgical syndrome).

Cox® Technic has been shown to benefit those patients with PSCP. A study of 69 post-surgical continued pain patients, 80% of patients demonstrated more than **50% relief of pain** at the conclusion of care (3 months) in a mean of 49 days and 11 visits, and 78.6% reported 50% relief of pain at 24 months follow up.[4]

This case reports a patient that presents with **PSCP** and a **double-level isthmic spondylolisthesis** treated with **Cox® Technic.**

PRESENTING COMPLAINTS:
This 69-year-old female, an avid exerciser, presented herself to my office on June 14, 2019. Her chief complaint was that of constant back pain with intermittent bilateral sciatica. She reports the onset of her pain began a month prior after lifting a tub of mulch and was progressively getting worse. She rated her pain a 7 on a visual analog scale of 0-10, with 0 being no pain and 10 being excruciating pain. She reported that coughing, sneezing, and walking increased her pain and that she had not been able to exercise for the last week and a half.

HISTORY:
Her history is significant for a previous lumbar fusion in 1995. She reports that it was a bone graft fusion that "failed". She reports having chronic back pain since that time. Her history of treatment includes a rhizotomy and epidural steroid injections.

EXAMINATION:

The patient presented in a mild forward antalgic lean. She was able to heel and toe walk. Her lumbar range of motion was a full 90 degrees in flexion, but limited to 15 degrees in extension by pain. Kemp's test was positive bilaterally. Right and left straight leg raising was positive at 90 degrees for low back pain. Lindner's test was positive. Lower extremity reflexes were 2+ and symmetrical. Palpation of the spine produced a pain response with digital pressure over the spinous processes of L4 and L5. Trigger point sensitivity was noted about the right and left posterior hip.

IMAGING:

Lumbar films were taken in my office on June 14, 2019, that revealed both a spondylolytic spondylolisthesis of L4 on L5 and L5 on S1 of 50% to 60% each. (Figure 1)

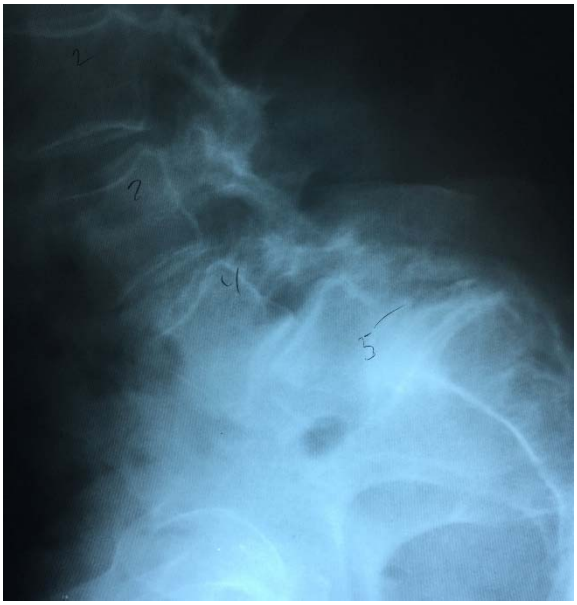

Figure 1

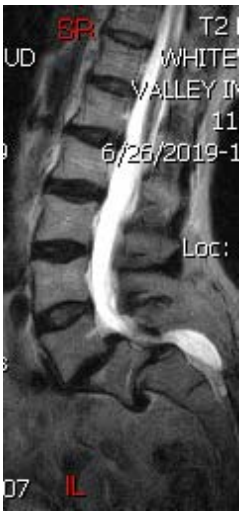

Figure 2

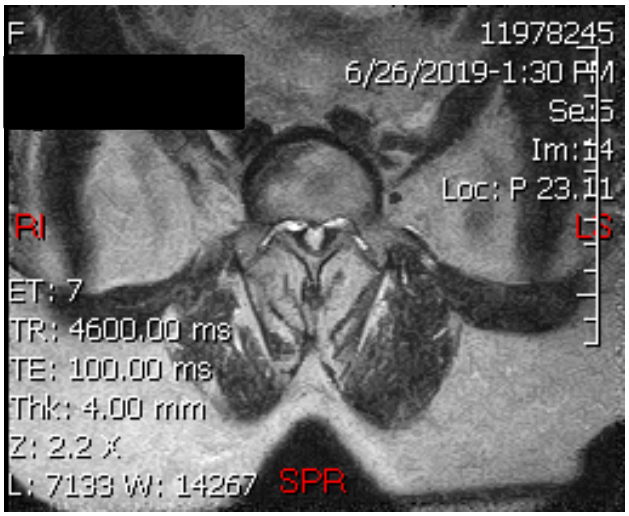

Figure 3

A lumbar MRI was performed through Reid Health on June 26, 2019. A double Grade 2 spondylolisthesis with severe bilateral neural foraminal narrowing with mass effect on the bilateral nerve roots at L4-L5 and severe spinal canal stenosis at L5-S1 was reported. (Figures 2 & 3)

DIAGNOSIS:
L4-L5 and L5-S1spondylolisthesis resulting in spinal stenosis

TREATMENT:
A bolster was placed under the lower lumbar spine as the patient was positioned prone on the instrument. Protocol 2 of Cox flexion/distraction/decompression with a contact a L3 was used during her treatments. Goading was applied to the right and left gluteal muscles. Tetanizing electric muscle stimulation was also applied to the lumbar spine and both hips each session. By her 12th visit automated axial decompression (Protocol 3) was being used during her EMS. She also was prescribed a daily supplement containing chondroitin sulfate.

DISCUSSION:
By her 12th treatment her pain was 50% improved from an initial pain score of 7 down to a 3-4. Her low back disability score dropped from an initial 62 to a 60 after 12 visits and she began a self guided aquatic therapy program.

We continued to treat for another 12 visits to see if we could get her pain score even lower. At the end of 24 visits, she still continued to rate her pain a 3-4, which she described as her "normal" pain prior to this injury. Her low back disability score did however continue to decrease from an initial 62 to a 50 after 24 visits.

References:

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2. Song D et al. Comparison of posterior lumbar interbody fusion (PLIF) with autogenous bone chips and PLIF with cage for treatment of double-level isthmic spondylolisthesis. Clin Neurol Neurosurg. (2015)
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4. Gudavalli MR, Olding K, Joachim G, Cox JM. Chiropractic Distraction Spinal Manipulation on Postsurgical Continued Low Back and Radicular Pain Patients: A Retrospective Case Series. J Chiropr Med. 2016 Jun;15(2):121-8. doi: 10.1016/j.jcm.2016.04.004. Epub 2016 May 25.