



Adult Rotatory Scoliosis with Multi-Level Degenerative Disc Disease and Prior Back Surgeries Treated with Cox® Technic Flexion/Distraction Decompression

by

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Discussion:

Scoliosis is a condition commonly seen in clinical practice that presents its own challenges for treatment. Adult scoliosis patients can show discogenic changes as part of their pain production.¹ Post-surgical patients also have become common place in today's chiropractic practices. This case combined a severely scoliotic spine with multi-level degenerative disc disease in a mature adult with three previous back surgeries.

Presenting Complaints:

Mr. M, age 63 presented himself to my office on July 28, 2016, in a forward antalgic position. He complained of severe left lower back pain that had begun insidiously 3 days earlier on Monday. He reported that he had gone to Reid Hospital on Tuesday. There, he was prescribed a narcotic (Tramadol), a nonsteroidal anti-inflammatory drug (Meloxicam), and acetaminophen (Tylenol) for the pain. He was scheduled to see an orthopedic surgeon.

Mr. M rated his pain a 10 on a visual analog scale of 0-10, with 0 being no pain and 10 being excruciating pain. He also reported occasional left leg numbness to his great toe after walking.

Treatment History:

He reports having scoliosis and a long history of back pain that included three back surgeries. His first surgery was a lumbar laminectomy about 20 years ago in Springfield, Illinois. Mr. M reports that 7-8 years later, he had another lumbar laminectomy done by the same surgeon. Then the same surgeon again performed a lumbar discectomy in 2009. That surgeon is deceased.

Examination:

Mr. M denies changes in bowel or bladder function nor any motor weakness of his extremities. Lumbar range of motion was limited by pain to 45 degrees in flexion and 5 degrees in extension.

¹ Buttermann GR. Pain disability correlated with disc degeneration via magnetic resonance imaging in scoliosis patients. *Eur Spine J* 2008;17(2):240-9

Kemp's test was positive bilaterally. Lasegue's sitting test was negative. Straight leg raising increased his back pain on the left. Farfan's compression test was negative. Lower extremity reflexes were 2+ and symmetrical. Heel walk and toe walk were both negative. Palpation of the spine produced a pain response with digital pressure over the spinous processes of L2 and L3. Trigger point sensitivity was noted about the left paraspinal musculature.

Imaging:

Lumbar x-rays were taken during his initial visit to my office. There is a left rotatory scoliosis convexity apexing at L2 with a 2+ rotational component. A tendency toward reversal of the upper lumbar lordosis with flattening of the contour below L2 is noted. There is moderate to severe degenerative disc disease from L2 through L5 and mild degenerative disc disease at T11/T12, L1/L2, and L5/S1 with facet arthrosis throughout the lumbar spine.



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6

Thoracic and lumbar x-rays were taken on August 31, 2016, at Reid Orthopedics Center. A significant S-shaped scoliosis is reported with multilevel degenerative disc disease.

Diagnosis:

Lumbar degenerative disc disease complicated by scoliosis and two previous laminectomies and a discectomy resulting in low back pain.

**Treatment:**

Following the *Management of Non-radicular Low Back Pain Utilizing Distraction Adjusting Algorithm* by JM Cox,² Mr. M. was carefully tolerance tested and underwent a therapeutic trial of distraction adjusting. His treatment was limited to flexion, left lateral flexion, left circumduction in a coupled motion and long y-axis as disc bulge into the concavity of the curve.³ By moving into the left convexity of the scoliotic curvature the concavity is opened to reduce the curve and the intradiscal pressure. Electric muscle stimulation was also applied to the lumbar spine. Supplementation of EPA/DHA and glucosamine/chondroitin sulfate was prescribed for the loss of proteoglycans (glycosaminoglycan) in the degenerated scoliotic discs.⁴

Following the 50% rule, he was treated daily until he had obtained 50% relief of his pain. Subsequent treatment visits were reduced by 50% with each 50% relief of pain attained.

Outcome:

Upon re-evaluation after 12 visits on August 19, 2016, he reported his pain level had dropped from a 10 to a 2.

Mr. M consulted with spine surgeon, Hon Vien, DO, on August 31, 2106, who ordered thoracic and lumbar x-rays. Dr. Vien reported that since Mr. M had made his appointment, his pain had resolved and did not recommend any surgical intervention. Mr. M had completed sixteen treatments in my office at that time.

² "Management of Non-radicular Low Back Pain Utilizing Distraction Adjusting." Cox JM, Feller J. Cox-Cid J. Distraction chiropractic adjusting: clinical application, treatment algorithms, and clinical outcomes of 1,000 cases. *Topics in Clinical Chiropractic* 1996;3(3):45-59. *Seed Algorithm* by James M. Cox, DC; Robert D. Moore, DC; Linda J. Bowers, DC; Daniel T. Hansen, DC

³ White AA, Panjabi MM. *Clinical Biomechanics of the Spine*. Lippincott Williams & Wilkins, January 1, 1990.

⁴ Akhtar S, et al. Ultrastructural localization and distribution of proteoglycan in normal and scoliotic lumbar disc. *Spine* 2005;30(11):1303-09.