Long-term chiropractic management of progressive adolescent idiopathic scoliosis: a case study

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Introduction

Idiopathic scoliosis is the most common spinal deformity in adolescents,[1] affecting approximately 2 to 4 percent of children 10 to 16 years of age.[2] Scoliosis has a tendency to worsen during periods of rapid growth;[3] bracing and scoliosis surgery are typically recommended to prevent this. Bracing is generally regarded as effective in preventing the progression of scoliosis to surgical levels, provided the patient is highly compliant.[4] Surgery is believed to be effective in curbing progression and reducing the signs and symptoms of spinal deformity in adolescent idiopathic scoliosis, although it is currently not known if surgical intervention for AIS is superior to natural history.[5] Although there is insufficient evidence to draw conclusions, manual therapy alone is not believed to significantly alter the natural history of scoliosis.[6] Generalized full-spine adjustments, heel lifts, and postural counseling do not appear to be effective in reducing the severity of mild scoliosis.[7] Case reports have described the results of manual therapy in conjunction with other forms of soft tissue and neuromuscular rehabilitation strategies.[8-13]

This article presents the results of a long-term chiropractic treatment plan, developed specifically for scoliosis patients, in a female with adolescent idiopathic scoliosis.

Case Presentation & Results

The patient was initially diagnosed with idiopathic scoliosis in 2003 at 11 YOA; the Cobb angle was measured at 25 degrees. The patient received generalized chiropractic care, which was not effective in preventing progression. In 2009, the patient traveled out-of-state to receive care at a private chiropractic clinic that had developed a scoliosis-specific chiropractic treatment protocol; radiographs were taken and the Cobb angles were measured to be 79 in the thoracic spine and 67 in the lumbar.

Two-week treatment regimens consisting of active mobility and spinal traction exercises, massage therapy, passive spinal distraction, spinal manipulation therapy, whole-body vibration therapy, and sensorimotor re-integration strategies were applied twice yearly over a period of 5 years, for a total of 9 treatment sessions. From the initial presentation in 2009, to the most recent x-ray taken in 2014, the thoracic Cobb angle changed from 79 to 42, and the lumbar Cobb angle changed from 67 to 43. Although Cobb angle is not a linear measurement (e.g., an 80 degree Cobb angle is more than twice as severe as a 40 degree Cobb angle),[14] this represents a 46.8% reduction in the thoracic Cobb angle and a 35.8% reduction in the lumbar Cobb angle.