Dynamic Chiropractic

PEDIATRICS

Back Pain in a Child

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History and examination: The patient is a pleasant 17-year-old male referred by an orthopedic center. Patient history is remarkable for a chest wall congenital finding, and patient complains of tenderness in the chest wall region during exercise. The patient's pain level rates as a 6/10 on a scale of 1-10, with 10 being severe pain with moderate interference in activities of daily living. The quality of the pain is described as burning and aching. There is no radiation of pain. Orthopedic treatment included an external bracing apparatus of the chest wall deformity several years prior. Family history includes scoliosis.

Chiropractic examination revealed postural distortions and noted chest wall, thoracic spine and kinesiology distortions. Positive scoliosis with Adam's sign. Motion palpation yielded spinal listings C7-T6, myospasm right longissmus, levator, pectoralis. Defer chest mensuration - no respiratory difficulty.

Discussion: The patient suffers from pectus carinatum; the cause of this congenital abnormality is unknown, but the fact that it tends to recur in families suggests genetics may play a role. Excessive growth and structural abnormalities of cartilage (tough connective tissue) of the ribs and breastbone are present in pectus carinatum. The condition is seen in some inherited connective-tissue disorders such as Marfan syndrome and Ehlers-Danlos syndrome; and in homocystinuria, a metabolic disorder.

When pectus carinatum is present in infancy, it is sometimes associated with premature fusion of segments of the sternum and ribs and congenital heart disease (Noonan syndrome). The patient in question has experienced somewhat equivocal relief in chest wall deformity with external bracing. The goal of the patient and his parents is that he be able to participate in sports like other young men his age. At the time of his first visit to me, he reportedly had been removed from all sports.

The allopathic approach: To date within the allopathic arena, pectus carinatum is treated using external bracing and open surgery. In children up to age 18 who have mild to moderate pectus carinatum and are highly motivated to avoid surgery, the use of a custom-fitted chest-wall brace pushing directly on the sternum may produce positive outcomes. Willingness to wear the brace as required is essential for the success of this treatment approach.

The brace works in much the same way as orthodontics (braces) work to correct the alignment of teeth. It consists of front and back compression plates that are anchored to aluminum bars. These bars are bound together by an adjustable leather strap on each side. This device is hidden under clothing and must be worn over a T-shirt for 14-16 hours a day for a minimum of two years or until full height is reached.

Open surgery in boys is performed through a horizontal incision on the anterior chest wall, usually just below the nipple area. The lower four to five cartilages that are abnormal are removed, leaving the perichondrium (the lining that envelops the outer portion of rib cartilage). This allows the cartilage to regrow in its new position. The sternum is surgically fractured and placed in the correct position. Medical necessity criteria for surgery include potential functional impairment of

the cardiovascular or pulmonary systems. (My patient's condition generally does not affect the pulmonary or cardiovascular systems.)

Chiropractic treatment: The chiropractic physical rehabilitative approach has long been utilized via spinal adjustments of adjunct areas above and below coupled with exercises designed to strengthen and balance any muscle asymmetry. The goal is to restore the child's activity levels in the absence of pulmonary and cardiovascular involvement.

Recommendations included instructions in follow-up chiropractic care (duration of 3-4 months). Technique: diversified non-force technique. In these cases, therapeutic exercises should be taught and provided in sequencing; ability to comprehend and perform appropriately is key. Initially, exercises are directed to the curvature on weak sacrospinalis muscles: shoulder, head and low hip presentation on side of weakness. Rocker board therapy is eventually introduced. Muscle balancing is emphasized. Re-education on external bracing versus active isometric weight training should be provided, as well as degree of scoliosis curvature and its impact on training.

At the time of this writing, the patient has returned to sports and is actively pursuing weight training with his high school coach.

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