

Scoliosis stemming from congenital lumbar vertebral anomaly causing radiculopathy

by Marc S. Gottlieb, DC

A 59 year old, female presented complaining of lower back pain, thigh and left knee pain. The lower back pain was described as dull aches which were severe and debilitating after long periods of standing. The patient described left thigh pain, numbness and tingling in an L3 distribution. The patient stated she injured her left knee in the 1950's and now had severe gonarthrosis. The thigh pain had been intermittent for three years and was getting progressively worse.

The patient initially sought evaluation by a neurosurgeon who diagnosed lateral spinal stenosis and felt the patient would need a decompression surgery. The neurosurgeon recommended the patient try physical therapy for treatment first.

The physical therapist noted a moderate to severe scoliosis on examination and was puzzled by her exam findings and a lack of leg length deficiency to explain such a severe scoliosis. Unclear about how to proceed, the physical therapist referred the patient for chiropractic evaluation.

Upon physical examination, lumbar ranges of motion were decreased and painful to perform; and flexion, extension and right lateral flexion were reduced due to a prominent scoliosis. Multiple orthopedic, neurologic and chiropractic tests were positive indicating diagnoses of lumbar radiculopathy and scoliosis stemming from congenital vertebral

anomalies. Reflexes were essentially normal; however, C5 was bilaterally areflexic. The L1, L2 and L3 myotomes of the anterior thigh were 4/5 weak and the lower extremity dermatomes were essentially normal.

Chiropractic radiographic impressions:

The lumbar spine is negative for recent fracture. The lumbar lordosis is decreased and the lumbosacral angle is increased. Facet joint imbrication is present from L1 through sacrum levels. A severe left scoliosis is present with an apex at L2. Disc spaces are narrow and osteophytic spurring is present throughout all lumbar levels. A congenital anomaly of L3 vertebral body with bony compensation at L4, L5 and S1 is present. Left knee films were taken by an orthopedist months prior and demonstrate decreased meniscal spaces, osteophytic spurring with loose bodies and degenerative changes reflecting significant osteoarthritis.

A therapeutic trial of spinal and extremity manipulation with therapeutic home exercise was instituted. The patient received her first manipulation and was then out of town for one week. Upon follow-up the patient reported decreased back and leg pain. The patient was treated approximately three times per week for seven weeks and then re-examined. Objectively and subjectively, the patient



Anteroposterior and lateral lumbosacral radiographs demonstrate a congenital block/hemi-vertebra combination anomaly at L3. Note the presence of two pedicles on the left side of the malformed vertebral body and only one on the right. The spine compensated well for these abnormal stresses as evidenced by sclerotic density changes in vertical gravity lines. The left lumbosacral articulation is particularly hypertrophied which gives the appearance of transitional segment.



improved remarkably. The patient responded well to diversified chiropractic adjustments to the spine and knee, as well as flexion distraction treatment applied to the lumbosacral region. At the time of re-examination, the patient stated on rare occasions her left thigh would bother her after a long day of standing or activity. However, the thigh pain was no longer radicular in nature (stemming from the lower back progressing down the thigh), but did coincide with pain referring proximally up the thigh from the severely degenerated left knee. The patient was instructed to follow-up in one month or sooner if the back pain returned. After one month without treatment the patient returned and reported only mild occasional left thigh and knee pain. She has returned to her normal activities which include lifting grandchildren and riding "jet skis" without complication.

Discussion

One could respectfully debate the diagnosis of radiculopathy in this case. Although the patient did have pseudoclaudication and loss of strength, I do not feel the symptoms were produced by true spinal nerve compression. The pain, numbness and tingling pattern was radicular in nature in that it referred from the lower back to the thigh; however, the dysesthesia did not progress beyond the knee. This finding suggests scleratogenous facet joint referral. Another factor supporting this contention is the response to conservative

care. It is unlikely that any portion of the spine has become anatomically decompressed, however function and biomechanics have been restored which decrease nervous system interference and dysfunction. The change in the description of pain from referring down the back into the thigh, to referring up the thigh from the knee is significant. Nerve pain almost always refers proximal to distal whereas myofascial trigger points, such as those occurring with a degenerated knee, can refer pain "backwards" or distal to proximal. Although the scientific literature demonstrates better outcomes for patients with low back pain only, many doctors of chiropractic routinely treat this type of lower back and leg pain to resolution. ■

About the author

Dr. Gottlieb is a Logan College graduate who currently practices in Raleigh, NC. He was voted NCCA "Rookie of the Year" for 1995.

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