

Lumbar Lordosis, Pelvic Tilt, and Paraspinal Atrophy Contributing to Back Pain in Patient with Chronic Tetraplegia

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Objective

To report a case of chronic low back pain and its associated features in a patient with incomplete tetraplegia.

Background

Patient is a 66 year-old Caucasian male with history of C4 AIS C tetraplegia due to a motor vehicle versus pedestrian accident in 2007 who resides in a VA long term care facility. Mild low back pain (LBP) exacerbated in 2015 during passive standing in a motorized wheelchair. Although remaining localized, LBP continues severe despite bedrest, physical therapy, and multiple oral and topical medications.

Spinal imaging (x-rays and magnetic resonance imaging (MRI)) have shown significant lumbar lordosis at L4-S1 region, marked anterior pelvic tilt, lumbar paraspinal muscular atrophy, and spondylosis.

Findings

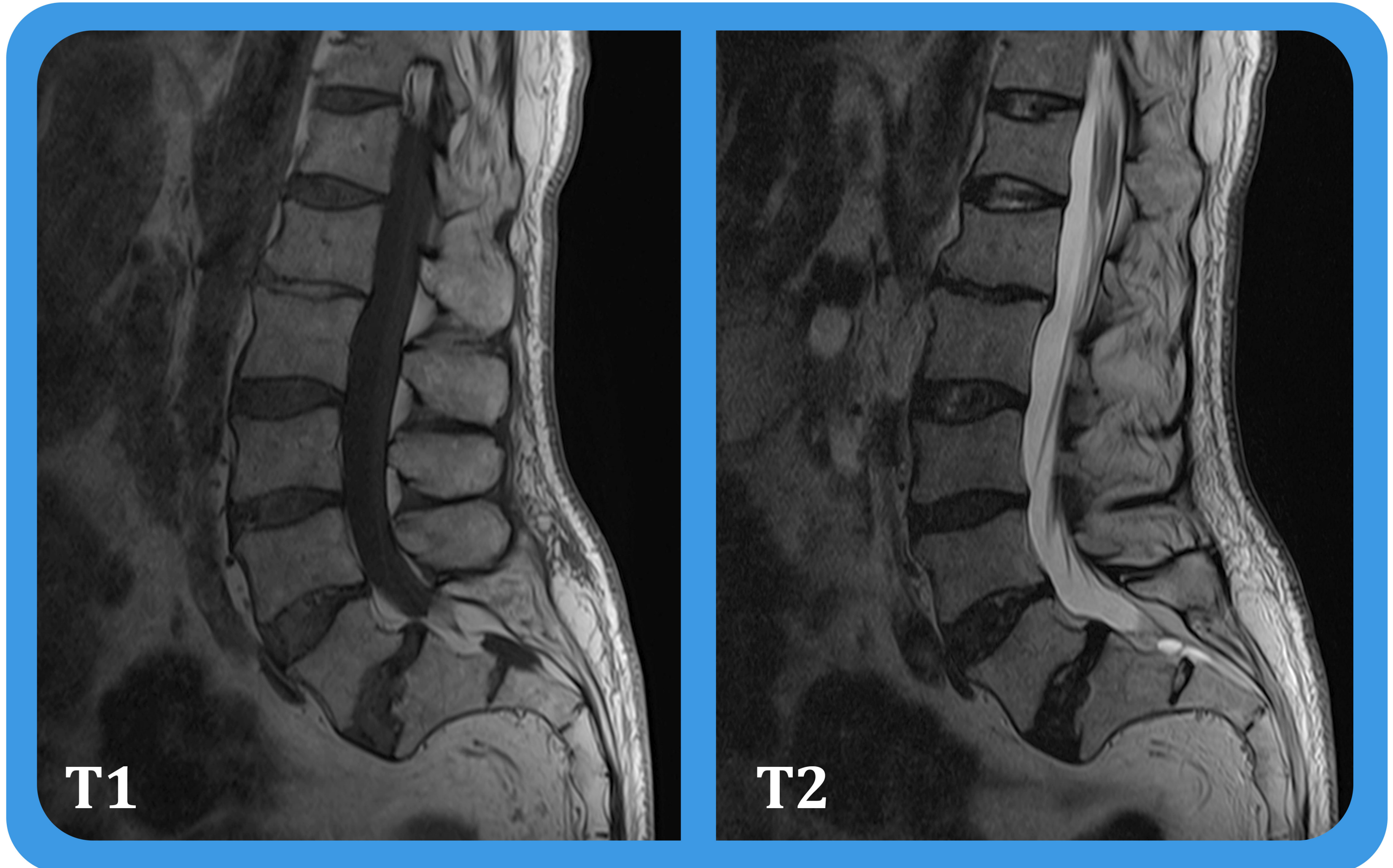
Unilateral L5 pars defect eventually evolved bilateral. Other spondylosis has remained stable, including disc bulges, hypertrophy of facet joints and ligamentum flavum, Grade 1 anterolisthesis of L5 over S1, and minimal retrolisthesis of L1 over L2.

Of note, the degree of lumbar lordosis at L4-S1 or angle of deformity remains stable from 2015 to latest MRI October 2022. He more recently achieved some reduction of LBP from specialized, custom-fit wheelchair seating.

Conclusions

Kyphosis and scoliosis frequently are mentioned as spinal deformity complications after spinal cord injury (SCI). Although lordosis is reported after traumatic pediatric SCI, it is not often mentioned after traumatic adult SCI.

Lumbar lordosis should be considered as contributing to LBP in traumatic adult tetraplegia. Lumbar lordosis may be associated with anterior pelvic tilt and posterior paraspinal muscular atrophy.



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Keywords

Lordosis, kyphosis, scoliosis, pelvic tilt, spinal cord injury, low back pain, spinal deformity.

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