



An Example of Bertolotti's Syndrome with Associated Radicular Pain in an 18-year-old Athlete

Garrett Wahl, BS¹, Seth Katzen, DO¹, Nate Olafsen, MD¹

¹Physical Medicine & Rehabilitation, Washington University in St. Louis School of Medicine



Case Diagnosis

- Bertolotti's Syndrome with left L5 radiculopathy

Case Description

- A healthy 18-year-old female endorses left-sided low back pain with radiation and occasional paresthesia into the left buttock and posterior thigh.
- Symptoms began 1 year ago without preceding trauma or injury. Baseline pain is dull, becoming sharper with 8/10 severity during activity. She continues to participate in field hockey with rest and naproxen providing only mild relief.
- Physical examination reveals tenderness over left L5-S1 junction, left sided pain with extension, and noted sacroiliac joint hypomobility. Stork/Gillette test was positive on the left.
- Radiographs demonstrated hemitransitional left L5 vertebra. MRI showed L4-L5 level disc protrusion with moderate central canal stenosis and abutment at the left L5 nerve root.
- Patient completed 5-6 months of physical therapy with significant relief, but pain returned upon discontinuation. She completed fall field hockey season despite symptoms and was lost to follow-up after receiving a steroid injection at outside facility.

Radiologic Findings

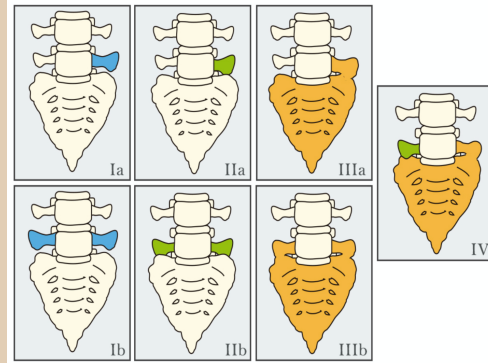


Figure 1: Castellvi classifications of lumbosacral transitional vertebrae (LSTV). (Rodríguez Eiriz et. al. 2017. EPOS.)

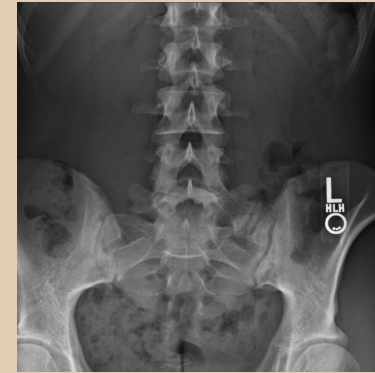


Figure 2: Plain radiograph demonstrating Left L5 hemitransitional vertebrae.

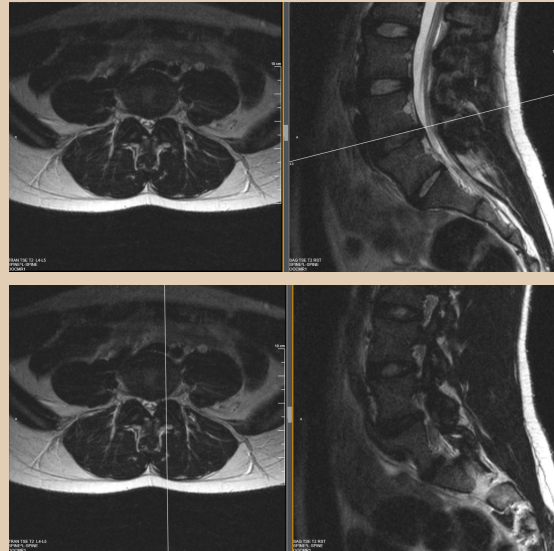


Figure 3: Transverse and sagittal MRI imaging demonstrating L4-L5 level disc bulge with central disc protrusion and associated annular fissure. There is minimal bilateral neuroforaminal stenosis and moderate spinal canal stenosis.

Discussion

- Patient's left sided tenderness and sacroiliac hypomobility correlated with imaging of left L5 LSTV.
- Prior to MRI, "far-out syndrome" was considered as an etiology for associated L5 distribution radicular pain. This is often reported in cases of transitional vertebrae due to nerve entrapment between the transverse process and sacral ala pseudoarticulation.¹
- Hypermobility directly above hemitransitional level often leads to disc degeneration and discogenic pain as components of Bertolotti's syndrome.²
- Patient's radiculopathy appears to originate from L4-L5 disc protrusion confirmed via MRI rather than extraforaminal impingement found in other cases.

Conclusions

- Bertolotti's Syndrome is an important consideration for low back pain in young, healthy patients.
- This case is a unique example of disc protrusion at the level superior to the hemitransitional vertebrae as the likely etiology for coexisting radiculopathy.

References

- 1) Ichihara K, et. al. The treatment of far-out foraminal stenosis below a lumbosacral transitional vertebra: a report of two cases. *J Spinal Disord Tech.*
- 2) Jain A, et. al. Bertolotti syndrome: a diagnostic and management dilemma for pain physicians. *Korean J Pain.*