

Bertolotti's Syndrome: Case Report

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Abstract

Bertolotti's syndrome is chronic progressive midline or paramedian low back pain caused by a congenital lumbar transverse mega-apophysis of the last lumbar vertebra which may articulate or fuse with the sacrum or ilium and cause isolated L4/L5 disc disease.

Introduction

Plain anteroposterior and lateral lumbar radiographs are often the first examination performed, for evaluation of transitional vertebrae. Computed tomography may be helpful in the identification of associated stenosis, osteophytes and areas of sclerosis surrounding the contact point of the mega-apophysis with the lateral iliac or sacral bone. Lumbar transverse mega-apophysis is found in approximately 20% of population, realizing a pseudoarticulation with sacrum ilium only in 5 à 7% of population. This condition is associated with clinical finding as low back pain only in 4–8% of the population.

Conclusion: Bertolotti syndrome is easy to diagnose in radiographs, CT scan and MRI based on the presence of a transverse mega-apophysis which articulates with the sacrum and/or the iliac wing, and which is a source of pain, but poses a therapeutic problem given the possibility of recurrence of pain.

Key words: Mega-transverse Process; Pseudoarticulation; Low Back Pain; CT scan

Case Report

A 45 year-old man was admitted to the hospital complaining of a 2-year moderate low back pain. The pain was described as being constant, dull, and localized on the paramedian left side. It worsened after physical exertion. Despite the use of NSAIDs, the pain remained unchanged. Imaging exams, including radiographs and CT scan was first performed, showing bilateral transverse mega-apophysis at L5 (Figure). Magnetic resonance imaging (MRI) depicted no major disc degeneration or other vertebral abnormalities. Our patient was managed using local infiltration of corticoide with significant improvement in his low back pain during the one year-follow up.

Discussion

Mario Bertolotti, the Italian surgeon, was first to correlate low back pain with an enlarged transverse process discovered radiographically in 1917 [1]. Bertolotti's syndrome is chronic progressive midline or paramedian low back pain caused by a congenital lumbar transverse mega-apophysis of the last lumbar vertebra which may articulate or fuse with the sacrum or ilium and cause isolated L4/L5 disc disease. Lumbar trans-



Figure 1: Volume rendering CT scan showing bilateral L5 transverse mega-apophysis which articulates with the sacrum. Transverse mega-apophysis is found in approximately 20% of population, realizing a pseudoarticulation with sacrum ilium only in 5 à 7% of population. Prassopoulos & al. found 102 (19%) accessory joints in 543 CT scan [2,3]. This condition is associated with clinical finding as low back pain only in 4–8% of the population [4].

The exact aetiology of Bertolotti's syndrome remains unclear. Degenerative changes of the intervertebral disc in relation to lumbosacral transitional vertebrae can explain this disorder [5]. Aihara et al. suggested that this phenomenon was due to hypermobility and abnormal torque of the intervertebral space above the transitional vertebra. And that there was less degenerative change at the level below because the anomalous articulations allow less movement between the L5 and S1 vertebrae [6].

Patient of Bertolotti syndrome usually present with chronic progressive midline or paramedian low back pain that is deep sharp or dual in nature or in sensation of pulled muscle or unilateral upper buttock pain [1].

For patients over the age of 50 years with low back pain, plain

anteroposterior and lateral lumbar radiographs are often the first examination performed, for evaluation of transitional vertebrae. Computed tomography may be helpful in the identification of associated stenosis, osteophytes and areas of sclerosis surrounding the contact point of the mega-apophysis with the lateral iliac or sacral bone. Magnetic resonance imaging is the standard method for studying degenerative disc disease, including research of disc herniations that have been demonstrated to occur more frequently in Bertolotti's syndrome [7]. Management of Bertolotti's syndrome treatment always begins with steroid and local anesthetic infiltration. Surgical resection of the accessory joint or posterolateral fusion of the transitional segment are reserved for forms not responding to medical treatment or with severe low back pain [4].

Conclusion

Bertolotti syndrome is easy to diagnose in radiographs, CT scan and MRI based on the presence of a transverse mega-apophysis which articulates with the sacrum and / or the iliac wing, and which is a source of pain, but poses a therapeutic problem given the possibility of recurrence of pain.

Conflicts of Interest

The authors report no conflicts of interest.

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