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Case report

Bertolotti syndrome: Report of a case☆

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ABSTRACT

Bertolotti's syndrome was first described in 1917. It is due to a congenital anatomical abnormality, and is defined by the presence of a transverse mega-apophysis, which entails an alteration in the lumbosacral transition. It can cause pain due to involvement of various structures: lumbosacral neo-articulation, contralateral facet arthrosis, sciatica, discogenic, or sacroiliac pain. It is characterized by low back pain, with a normal physical examination. According to some studies, the incidence is high (between 7% and 20%). Initial treatment should be conservative, while there are interventionist alternatives.

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Síndrome de Bertolotti: a propósito de un caso

Palabras clave:
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RESUMEN

El síndrome de Bertolotti fue descrito en 1917. Se debe a una anormalidad anatómica congénita y se define por la presencia de una megaapófisis transversa, que conlleva una alteración en la transición lumbosacra. Puede generar dolor por afectación de diversas estructuras: neoarticulación lumbosacra, artrosis facetaria del lado contralateral, lumbociatalgia, dolor discogénico o dolor sacroilíaco. Se caracteriza por un dolor lumbar bajo, con una exploración física normal. Según algunos estudios la incidencia es elevada (entre 7 y 20%). El tratamiento inicial debe ser conservador, si bien existen alternativas intervencionistas.

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Clinical case

A 56-year-old woman without known drug allergies, with a history of arterial hypertension, dyslipidemia and polyarthrosis. Her usual treatment was with omeprazole, acetylsalicylic acid, beta-blocker and thiazide. She consulted us for low back pain of mechanical characteristics of long evolution. Such lumbago increases with the trunk flexion and occasionally radiates to the right lower limb until the knee. The rest of the exploration is normal. Under treatment with NSAIDs, tramadol and diazepam, without improvement.

The simple X-ray of the spine (Fig. 1) shows an alteration in the lumbosacral transitional vertebra with a sacral lumbarization and increase in both transverse processes of L5, more pronounced in the right side.

The nuclear magnetic resonance (Fig. 2) reveals some degree of disk dehydration, with moderate diffuse bulging of the annulus fibrosus of the intervertebral discs L4-L5 and L5-S1, with a small posterior annular tear at the L5-S1 level. It also shows interapophyseal degenerative phenomena that cause decrease of the caliber of foramina at the L4-L5 and L5-S1 levels, of greater connotation at the right L4-L5 level.

With a diagnosis of alteration of the lumbosacral transitional vertebra or Bertolotti syndrome, we intensified the analgesic treatment along with rehabilitation, but given the poor response, she was referred to the unit of pain management of our hospital, where a block of the medial branch of the dorsal branch of the spinal nerve (facet block) at the L3-4, L4-L5 and L5-S1 levels was carried out, with local anesthetic and corticoid, with a positive but transient outcome. This block served for the localization of the structure that caused the low back pain. For this reason it was decided, subsequently, to perform a conventional radiofrequency (rhizolysis) of the medial branches, of the dorsal branches of the spinal nerves, at the L3-L4, L4-L5 and L5-S1 levels, in the right side. This radiofrequency, by using temperatures of 80 degrees, is ablative because it denervates the innervated joints. In this case the neo-articulation formed between the transverse mega-apophysis of L5 and the iliac blade, receives the innervation from these branches, and therefore, its denervation can produce relief of the low back pain, if this is the cause of this pain. In this patient there was a significant pain relief after performing the rhizolysis.

Fig. 1 – See the alteration in the lumbosacral transitional vertebra with a sacral lumbarization and increase of both transverse processes of L5, more pronounced in the right side.

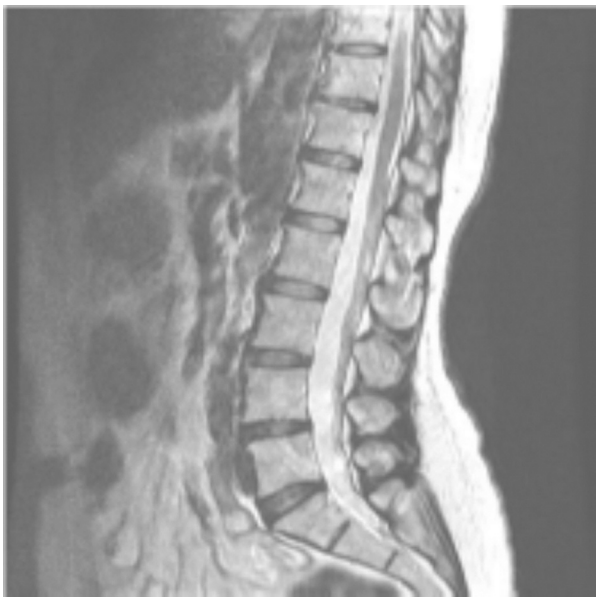

Fig. 2 – The nuclear magnetic resonance reveals some degree of disk dehydrations with moderate diffuse bulgings of annulus fibrosus of intervertebral discs L4-L5 and L5-S1 with a small posterior annular tear at the level of L5-S1. It also shows interapophysial degenerative phenomena that cause decrease in the caliber of foramina at L4-L5 and L5-S1 levels, of greater connotation at the right L4-L5 level.

Discussion

Bertolotti syndrome was described in 1917 by Mario Bertolotti, as already mentioned.[1] It is a congenital anatomical abnormality, present, according to the literature, in 7–20% of the population.[2] It is defined by the presence of a transverse mega-apophysis that articulates with the sacrum or the ilium, which leads to an alteration in the lumbosacral transition, and therefore, to a change in the biomechanics of the axial skeleton.

This alteration can be bilateral or unilateral,[3] producing a low back pain clinic usually after the second decade of life.[2] Most patients are asymptomatic,[4] although when it is assymetric[5] it can generate pain, originated in different structures: a neo-articulation in the affected side, arthrosis in the posterior interapophyseal joints, facet arthrosis in the contralateral side, pain in the sacroiliac joint, and even discogenic pain and lumboscyatic pain.

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