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Case Report

Narrow Lumbar Canal by Epidural Lipomatosis: About A Case and Review of the Literature

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Abstract: Epidural lipomatosis is a pathology characterized by an abnormal accumulation of non-encapsulated fat in the epidural space. Although rare, it is a possible cause of sciatica or narrow spinal canal. It is often associated with contributing factors such as prolonged corticosteroid therapy, or obesity. We report a case of a patient who presented disabling lumbosciatalgia and whose radiological exploration confirmed compressive epidural lipomatosis. The evolution was favorable after surgical decompression.

Key words: Narrow lumbar canal, lipomatosis, surgery.

INTRODUCTION

Epidural lipomatosis is a rare condition characterized by excessive accumulation of fatty tissue in the epidural space. It is generally secondary to local or systemic corticosteroid therapy. This is a rare cause of symptomatic ductal narrowing. We report the case of a patient treated for lumboradiculalgia whose radiological exploration revealed narrowing of the epidural space due to excess epidural fat.Canal lombaire étroit par lipomatose épidurale: à propos d'un cas et revue de la littérature.

PATIENT AND OBSERVATION

A 50-year-old man, hypertensive, type II diabetic had consulted for low back pain evolving for 1 year, presents an android-type obesity with a weight of 115 kg and a height of 1.68 m, i.e. a body mass index of 40 (normal below 25). treatment with nonsteroidal anti-inflammatory drugs, level 2 analgesics and muscle relaxants associated with functional rehabilitation for 2 months, had been instituted without improvement. He has never taken long-term corticosteroid treatment. The neurological examination shows diminished Achilles tendon reflexes without sensorimotor deficit or vesicosphincter disorder. Biological examinations showed moderate dyslipidemia. The MRI had shown conflicting disc protrusions at the L3-L4 and L4-L5 levels, hypertrophy of the young ligaments with compressive thickening of the epidural fat which appears in hypersignal on T1 weighting from L3 to L5 secondarily reducing the lumbar canal (Figure 1, Figure 2).

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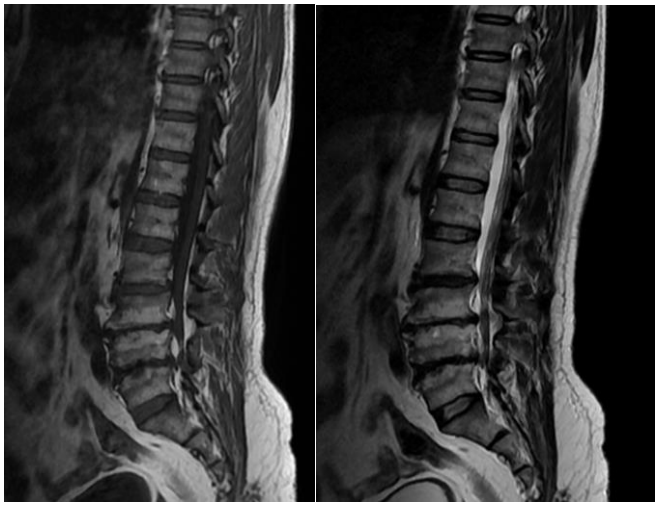

Figure 1: Lumbar MRI of the patient in T1 and T2 sagittal reconstruction which shows a disc protrusion at the L2-L3, L3-L4 and L4-L5 levels associated with hypertrophic appearance of the anterior epidural fat and the yellow ligaments from L3 to L5 reducing secondarily the lumbar canal

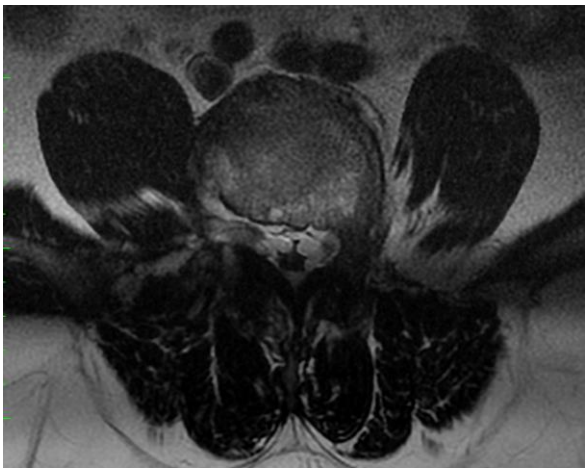

Figure 2: Lumbar MRI of the patient in axial section in T2 sequence; epidural fat in T2 hypersignal reducing the lumbar canal

DISCUSSION

Epidural lipomatosis is defined by a deposit of non-encapsulated fat within the spinal epidural space. It is a rare condition that was first described in 1975 by Lee et al [1] in a renal transplant patient on corticosteroid therapy. Reported in 1–2.5% of patients undergoing lumbar CT or MRI. A little more common in male subjects of African origin[2-13]. The onset of symptoms is usually gradual over several weeks or even months. The usual reason for consultation corresponds to spinal pain radiating or not to the lower limbs, intermittent claudication, paresthesias with, in the extreme, spinal cord and radicular compression or a cauda equina syndrome depending on the location of the LE [3 , 8]. We note that there is no parallelism between the importance of LE and the clinical signs [12]. However, neurological deficit syndromes can be observed much more frequently at the thoracic level than at the lumbosacral level [6].

The association of epidural lipomatosis with overweight has been frequently reported and obesity, which is incriminated as one of the causes of this condition, represents approximately 25% of reported cases [1, 8]. The etiological factors implicated in epidural lipomatosis are: obesity, local or systemic corticosteroid therapy and alcoholism. Corticosteroid administration is the best documented etiology [11]; however, in some cases the cause remains unknown. Our patient did not receive corticosteroids but he has moderate dyslipidemia. MRI in our patient found conflicting disc protrusions at the L3-L4 and L4-L5 levels, hypertrophy of the young ligaments with compressive thickening of the epidural fat from L3 to L5 secondarily reducing the lumbar canal. The thoracic region is the most affected, however the lumbar region is affected in 39 to 42% of cases; and the L4-L5 level is the most affected in the lumbar region [2, 7]. CT and MRI imaging can make the diagnosis. Fatty invasion of the epidural space is confirmed on CT by tissue with a density between –80 and –100 HU [9]. The “trifoliate” image of the dural sheath surrounded by this hypodense tissue would be characteristic [4]. It is MRI which, for some authors, would be the examination of first intention because it not only makes it possible to make the diagnosis, but also to know its precise longitudinal

and lateral extension, and to make it a reference examination in within the framework of a pre-surgical assessment or to follow its evolution [12]. Hyperplastic fatty tissue gives a T1 hypersignal in weighted sequence and a relative hyposignal in T2 [13]. sagittal. Treatment depends on the severity of the neurological manifestations. In some cases, a weight response has been observed in some obese patients after weight reduction. However, long-term follow-up results are not available. Surgical decompression is the treatment of choice in symptomatic patients in whom nonsurgical treatments have failed or in those with signs of myelopathy. 1, 5, 7 The prognosis of patients with idiopathic SEL after surgical management is favorable and no cases of recurrence have been reported.

CONCLUSION

Epidural lipomatosis is a rare condition that generally causes ductal narrowing in obese patients or on corticosteroid therapy. The pathogenicity of this entity is recognized by many authors, but its frequency is probably underestimated. The key examination is spinal MRI and the treatment is usually surgical.

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