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Epidural Lipomatosis, A Rare Cause of Spinal Cord Compression: A Case Report and Review of the Literature

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Abstract | **Case Report**

Spinal epidural lipomatosis (SEL) is a rare condition characterized by an abnormal, non-neoplastic proliferation of adipose tissue in the spinal epidural space, responsible for progressive compression of the spinal cord [1]. We report the case of a patient being followed for Cushing's syndrome complicated by osteoporosis who has been suffering from intermittent lower back pain for more than a year. A spinal MRI revealed a diffuse and staged biconcave compression of the thoracolumbar spine with thickening of the posterior epidural fat space at the dorsal level and circumferentially at the lumbar level, indicating epidural lipomatosis conflicting with the spinal cord. The patient underwent a decompressive laminectomy.

Keywords: Spinal epidural lipomatosis, Diagnosis, spinal cord compression, Case repport.

INTRODUCTION

Spinal epidural lipomatosis (SEL) is a rare condition characterized by an abnormal, non-neoplastic proliferation of adipose tissue in the spinal epidural space, responsible for progressive compression of the spinal cord [1]. This is a neurosurgical emergency that requires a rapid etiological diagnosis and appropriate management. The objective of our work is to focus on this rare entity, which is often diagnosed in severe cases of spinal cord compression.

CASE REPORT

This is a 30-year-old patient being followed for Cushing's syndrome complicated by osteoporosis, who has been suffering for more than a year from intermittent lower back pain. A spinal MRI revealed a diffuse, stepped, biconcave compression of the thoracolumbar spine with thickening of the posterior epidural fat space at the dorsal level and circumferentially at the lumbar level, causing anterior displacement of the spinal cord and reducing the perimedullary spaces, indicating epidural lipomatosis in conflict with the spinal cord (figure 1). The patient underwent a decompressive laminectomy. The outcome was favorable.

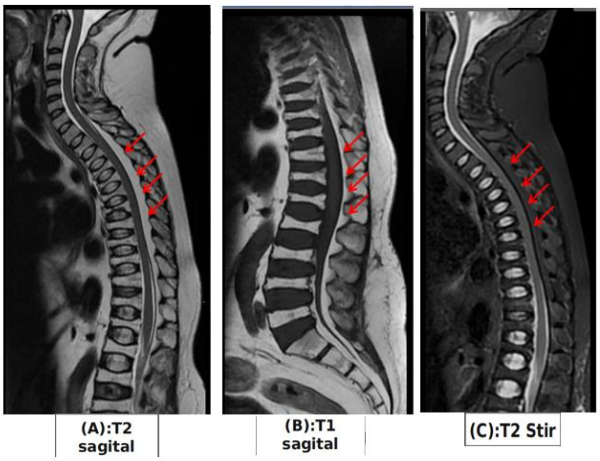

Figure 1: Showing the thickening of the posterior epidural fat space at the dorsal level (A), (C) and circumferential at the lumbar level (B) conflicting with the spinal cord (red arrow)

DISCUSION

Epidural lipomatosis is defined by a deposit of non-encapsulated fat within the spinal epidural space [1]. It is a rare condition and mainly affects young adult males (75%) [2]. The association of epidural lipomatosis with overweight has been frequently reported. The incriminated etiological factors are: obesity, local or general corticosteroid therapy, and alcoholism. However, in certain cases the cause remains unknown

[2.3]. Clinically, lumboradicular pain with a claudicating character associated with a normal neurological examination is frequently reported due to canal narrowing [4]. The thoracic region is the most affected; however, the lumbar region is involved in 39 to 42% of cases, and the L4-L5 level is the most affected in the lumbar region [4.5]. Sagittal MRI of the spinal cord is the examination of choice for making the diagnosis. Among the characteristic signs on MRI, we find the enlargement of the epidural fat exceeding 7 mm in anteroposterior diameter; the presence of a homogeneous fat signal : hyperintense on T1 and T2, with complete signal suppression on fat-saturation sequences (STIR or T1 with saturation); and compression of the thecal sac, which can be deformed into a characteristic trilobed 'Y' configuration on axial slices. This 'Y sign' is considered specific for the compression of the thecal sac by epidural lipomatosis, not observed in other spinal conditions [6]. Surgical treatment (laminectomy combined with excision of epidural fat) is the therapeutic option chosen by several authors and gives good results [7.8].

CONCLUSION

Spinal epidural lipomatosis is often asymptomatic but can be complicated by spinal cord compression. The corticoid-induced origin remains the most frequent. The key examination relies on spinal MRI, and the treatment is usually surgical.

Conflicts of Interest: The authors declare no conflictsof interest.

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