

MRI Diagnosis of Obesity-Related Spinal Epidural Lipomatosis

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A 61-year-old male presented to our hospital complaining of claudication: bilateral leg weakness impeding mobility. Symptoms started after 100 m of walk and recede after several minutes of rest. The patient was obese, with a body mass index (BMI) of 41 kg/m² and reported a weight gain of about 55 pounds in the last year. Patient's comorbidities were dyslipidemia, hypertension, and antithrombin III deficiency. The patient also suffered from chronic low-back pain recently worsened and cervical pain. Pulses in the lower limbs were present. Neurological examination was also unremarkable.

The patient was submitted to magnetic resonance imaging (MRI) of the lumbar spine that revealed a severe circumferential compression of the dural sac (from L2 to S1) caused by a relevant hypertrophy of the intracanal epidural fat (Figure 1). These findings are the characteristics of spinal epidural lipomatosis (SEL), grade 2 according to Borré, a condition already known as a rare cause of spinal stenosis.^{1,2} In a previous MRI, performed 5 years before the weight gain (BMI = 33 kg/m²), for low-back pain, when claudication symptoms were not present, the epidural fat was well represented but significantly less voluminous (grade 1) (Figure 2).

The patient was referred to a specific program for weight loss.

SEL is an uncommon condition that usually arises in association with chronic steroid therapy, as well as in Cushing's syndrome or obesity.^{1,3} Moreover, recent studies suggest that SEL should be considered as a manifestation of metabolic syndrome correlated with BMI, abdominal circumference, visceral fat, and liver fat deposition.^{3,4}

The hypertrophic epidural adipose tissue may be located both in thoracic or lumbar spine, causing narrowing of spinal canal, compression of neural structures with a wide range of symptoms, including claudication (as in the case), progressive myelopathy, and radicular symptoms.¹

MRI is considered the best imaging modality for detecting and grading this condition; SEL grade 1 is usually asymptomatic, grade 2 is symptomatic in some cases, while grade 3 is always symptomatic.²

Weight loss and/or suspension of steroids therapy represent effective conservative treatment strategies.¹ Surgical decompression is recommended when conservative treatments fail.⁵

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CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

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Figure 1: MRI study (T1w sagittal image on the left and T2w axial image on the right) shows a circumferential compression of the dural sac due to relevant hypertrophy of spinal epidural fat from L2 to S1 (arrows).

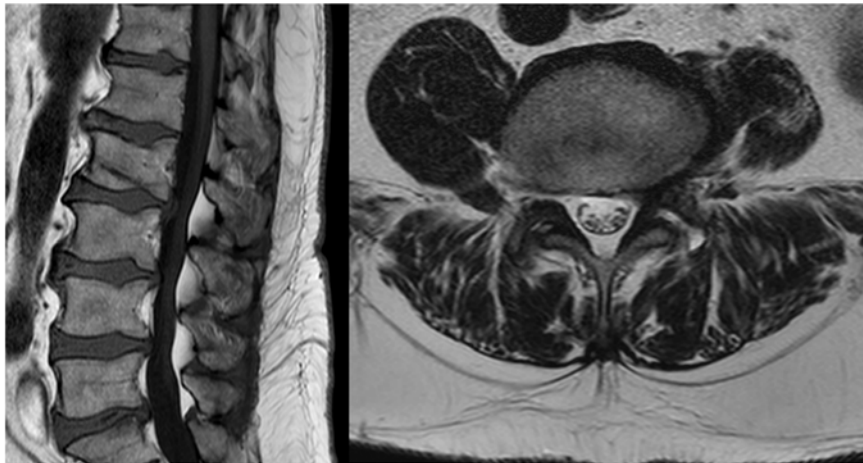


Figure 2: In an MRI study (T1w sagittal image on the left and T2w axial image on the right), performed 5 years before the weight gain, the epidural fat was significantly less voluminous.