Case 6703

Mediastinal and Spinal Epidural Lipomatosis
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Section: Chest imaging
Case Type: Clinical Cases
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Patient: 66 years, male

Clinical History:
A 66-year-old man with a history of steroid therapy for 4 months for treatment of back pain, presented in the emergency room with subacute onset of dyspnea, progressive and rapid increasing lumbar spine pain and weakness of both limbs.

Imaging Findings:
A 66-year-old man presented in the emergency room with subacute onset of dyspnea and rapidly progressive lumbar back pain and weakness of both limbs.

He had a long history of mild lumbar back pain treated sporadically with anti-inflammatory medication. Four months ago, the patient had taken corticosteroids (prednisolone 150mg/day IV) by self-medication due to insufficient relief of the back pain with anti-inflammatory medication.

The chest film showed an enlarged cardiac silhouette with a retrocardiac shadow of increased lucency resulting in a "double contour" effect (Fig. 1). The axial T1w chest MR revealed extensive mediastinal lipomatosis. There was no tracheal deviation or compression and no definable mass (Fig. 2). In the sagittal and axial T1w MR images of the thoracic and lumbar spine high intensity fat was visible within the spine epidural canal (Fig. 3) compressing the thecal sac, which has been referred to as the "Y sign" (Fig. 4).

Discussion:
Mediastinal lipomatosis is a benign condition characterized by abnormal accumulation of non circumscribed fat within the mediastinum. It is associated with the Cushing syndrome as a result of both chronic endogenous and exogenous steroid excess, as well as ectopic adrenocorticotropin hormone secretion and obesity. Clinically, patients could be cushingoid and obese; most of them are asymptomatic, but if symptomatic, the most frequent symptom is dyspnea. On chest X-ray, the diagnosis is suggested by symmetrical widening of the mediastinum and absence of a circumscribed mass; deviation of the trachea is uncommon which helps to differentiate it from mediastinal masses. However, occasionally tracheal compression can occur and cause dyspnea. Symptomatic spinal epidural lipomatosis (SEL) is considered a rare condition that is characterized by a pathologic accumulation of epidural fatty tissue within the epidural canal. This excessive fat can provoke slowly progressive medulla and nerve root compression. The thickness of fatty tissue greater than 7mm is a diagnostic criterion. Most of the cases are related with long-term steroid treatment but other causes have been reported in the literature, such as obesity, rheumatoid arthritis, chronic obstructive pulmonary disease and the association between steroids and protease inhibitor treatment for HIV. Only a few cases of SEL have been described in the absence of these pre-existing conditions, and referred to as "idiopathic" SEL. Thoracic involvement of SEL is most common followed, by
lumbar involvement; cervical location has never been described. The diagnosis of SEL relies on clinical symptoms and imaging studies with MRI being the modality of choice for the detection of the fatty tissue.

**Differential Diagnosis List:** Mediastinal and Spinal Epidural Lipomatosis secondary a steroid treatment.

**Final Diagnosis:** Mediastinal and Spinal Epidural Lipomatosis secondary a steroid treatment.

**References:**


Figure 1

Description: Sagittal T1w MR lumbar spine Origin:
Figure 2

Description: Axial T1w MR chest Origin:
Figure 3

Description: Chest film

Origin:
Figure 4

Description: Axial T1w MR lumbar spine Origin: