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Spinal cord compression caused by idiopathic dorsal epidural lipomatosis: Case report and review of the literature

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ABSTRACT

Background: We report the case of a patient 18 years old with spinal cord compression evolving over 10 years with spastic paraparesis. Anatomic imagery showed epidural lipomatosis. No predisposing factors were found.

A T2- T9 laminectomy with excision of the surplus epidural fat was performed. The follow-up was favorable.

Introduction

The epidural lipomatosis is an accumulation of fatty tissues non-encapsulated in the epidural. It is more often located in the chest level, rarely in lumbar's and never in clericals' region.

Lee and Al have described the first case in 1975.

Observations

We report an 18-year-old male without pathological confirmation, hospitalized in May 2013 in the neurosurgery department of Blida's hospital, for walking difficulties developing slowly and gradually since 8 years.

The evolution is marked by a Spastic paraparesia**,** digitigrade walk and a achilean tendinous retraction. The medullary IRM exam shows a posterior thoracic epidural lipomatosis expanded from Th2 to Th9. Patient management consists in laminectomy from T2 to T9 with resection of epidural adipose *tissue*

In perioperative periode, appears that the *adipose* tissue is dense and fibrous, of purely posterior localisation and easily resected in totality.

Its completed surgery removal is confirmed by a RMI control exam that furthermore shows a reexpansion of the dural sheath as well as a normalization of the dorsal intracanal space.

In postoperative period, partial improvement in patient's symptomatology is observed.

This improvement is reflected by a disappearance of spasticity and concerns the digitigraded walk. However, persistence of moderate proximal muscle weakness is noted.

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Discussion

Epidural Lipomatosis are a rare entity.
It was first described by Lee and al in 1975 in a patient after renal transplantation hence.
Fogelle and al are the first authors who define secondary epidural lipomatosis – which are the most frequent- and idiopathic epidural lipomatoses.
Their study is a metaanalyses, which was focused on 107 patients having a epidural lipomatosis. 55.3% of the cases were consecutive to corticosteroid therapy, 24.5% to obesity and 3.2% were secondary to Cushing's syndrome. Only 17% were idiopathic (Fogel et al 2005). Roy Camille and al 1991, Sandberg and Leyne, 1999, Mac Cullen et al., 1999 each describe cases of epidural lipomatosis following a corticosteroids's epidural injection. Also it is Note that Toshnimal and Glick in 1987 reported a case of epidural lipomatosis associated with hypothyroidism and Montoriol et al 2010 described cortico epidural lipomatosis induced in the context of a sarcoidosis**.**
More recently, Noel P and al, 2014 reported a case of dorsal lipomatosis in an obese patient. This type of case would be clinically revealed only by spinal pain.
Male patients are the most affected. They accounts for approximately 75% of cases (Gupta et al 2007).
According to (Tobler et al 1988), equivalent daily dose of 15 mg of prednisolone during 4 months would be sufficient for developing the disease.
Kano and al 2005 systematicly recommend a medullo-rachidienne MRI for patients under corticoids treatment in case of vertebral compaction or osteoporosis
Lipomatosis shows a fatty tissue homogeneous signal type observed on hypersignal in eco Sequences allowing selective cancellation of the fatt signal, such as theT2 Stir, appear to be crucial for the lipomatosis diagnosis. This by showing a characteristic homogeneous hypo signal (Gill JB 2007).
It should be noted that a thickness of fat tissues up to 6mm is required to evocate the diagnosis (Pinkhardt and Al 2008).
The main differential diagnosis is angiolipoma. It is a limited benign tumor that differs from the lipomatous tumor. It is composed of an excess of abnormal fat (Akhaddar and al 2000).
There is also a difference based in pathological analyse : in angiolipomas, mature lipocytes are mixed with abnormal blood vessels of capillary, veinular and arteriolar type (Klisch et al 1999).
Obesity is clearly identified as one of the causes of this afection, it represents approximatively 25% of the reported cases (Ohba 2014).
In this type of case, the surgery is not advised, a loss of weight seems to lead to positive results (Kotilainen and Al 2006).

Conclusion

Epidural lipomatosis remains a rare pathology. To date, only 140 cases have been reported (Ohba and Al 2014, Ciento and Kranzler 2000, Haddad and al 1991, Hogg and al 1996, Hughes and Jones 1995, Iplikcioglu and Al 1999, Kumar and Al 1996, Quint and Al 1988, Selmi and al 1994, Stern and Al 1994).
It may be a consequence of slow medullary or radicular compression. The case reported in this study, is a spastic paraparesis. It was therefore necessary to ensure its idiopathic character by eliminating any predisposing factor such as obesity, corticosteroids or Cushing's disease. In the case of symptomatic idiopathic lipomatosis, the treatment is surgical symptomatic idiopathic lipomatosis, the treatment is surgical.

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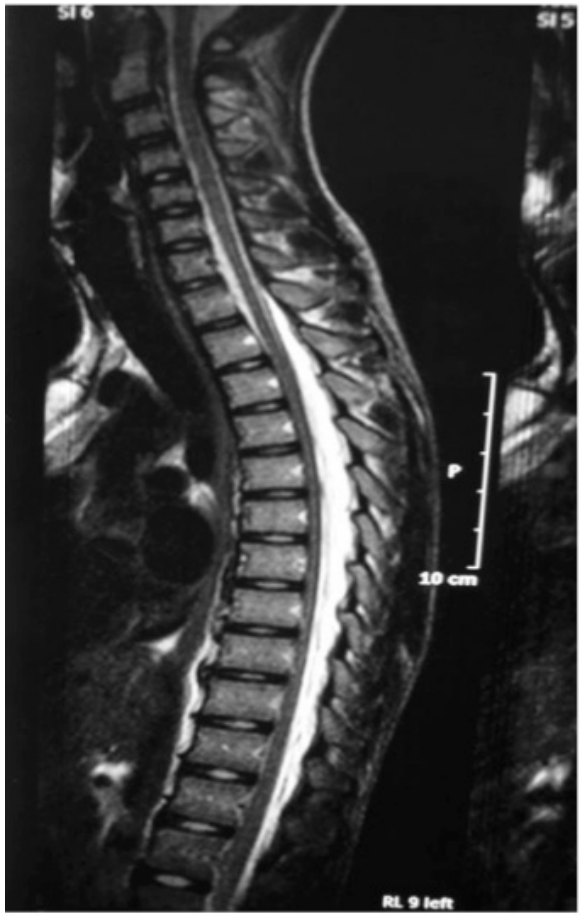

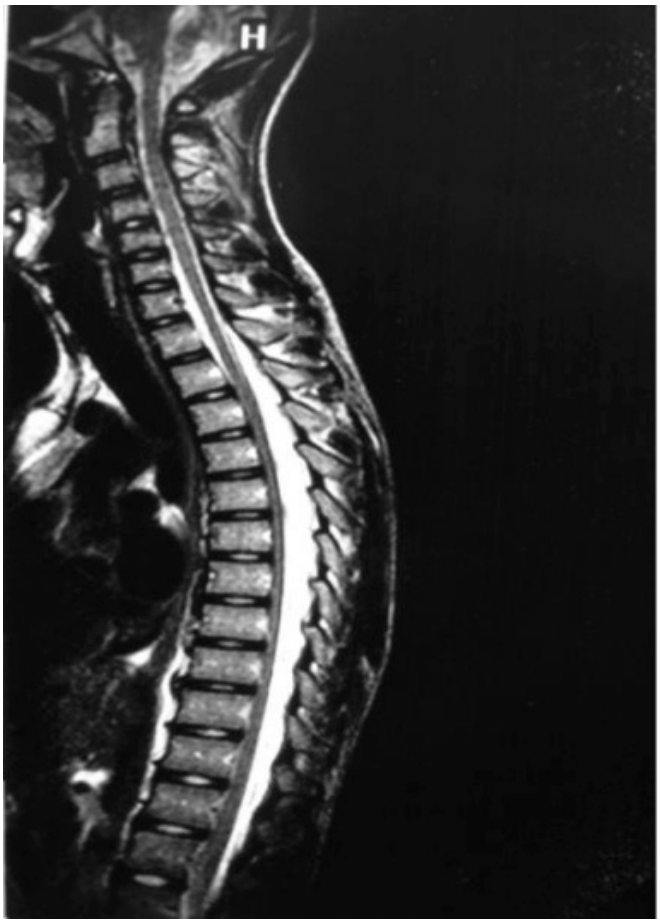

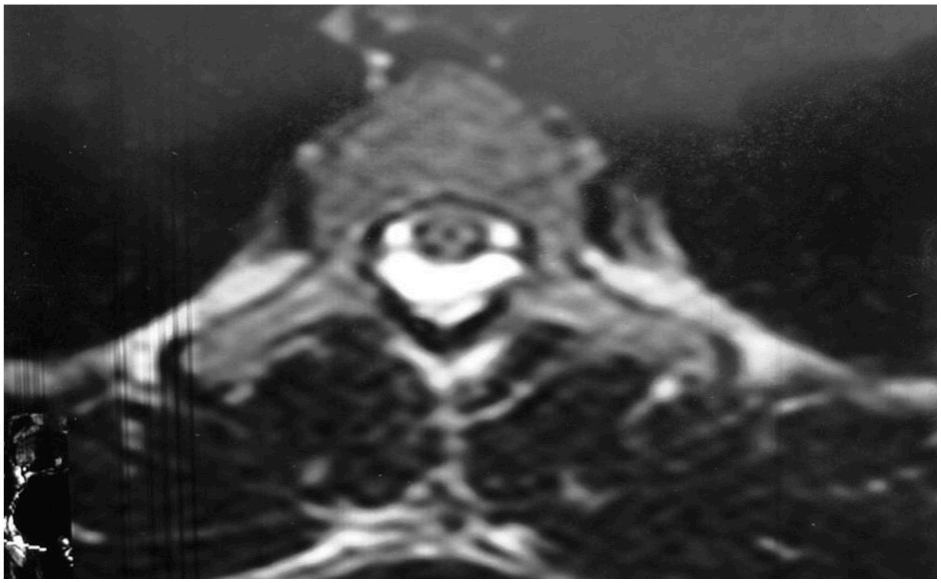

MRI cervico dorso lumbar in sagittal and axial section in sequence T2 objectifying posterior dorsal medullary compression by an excess of

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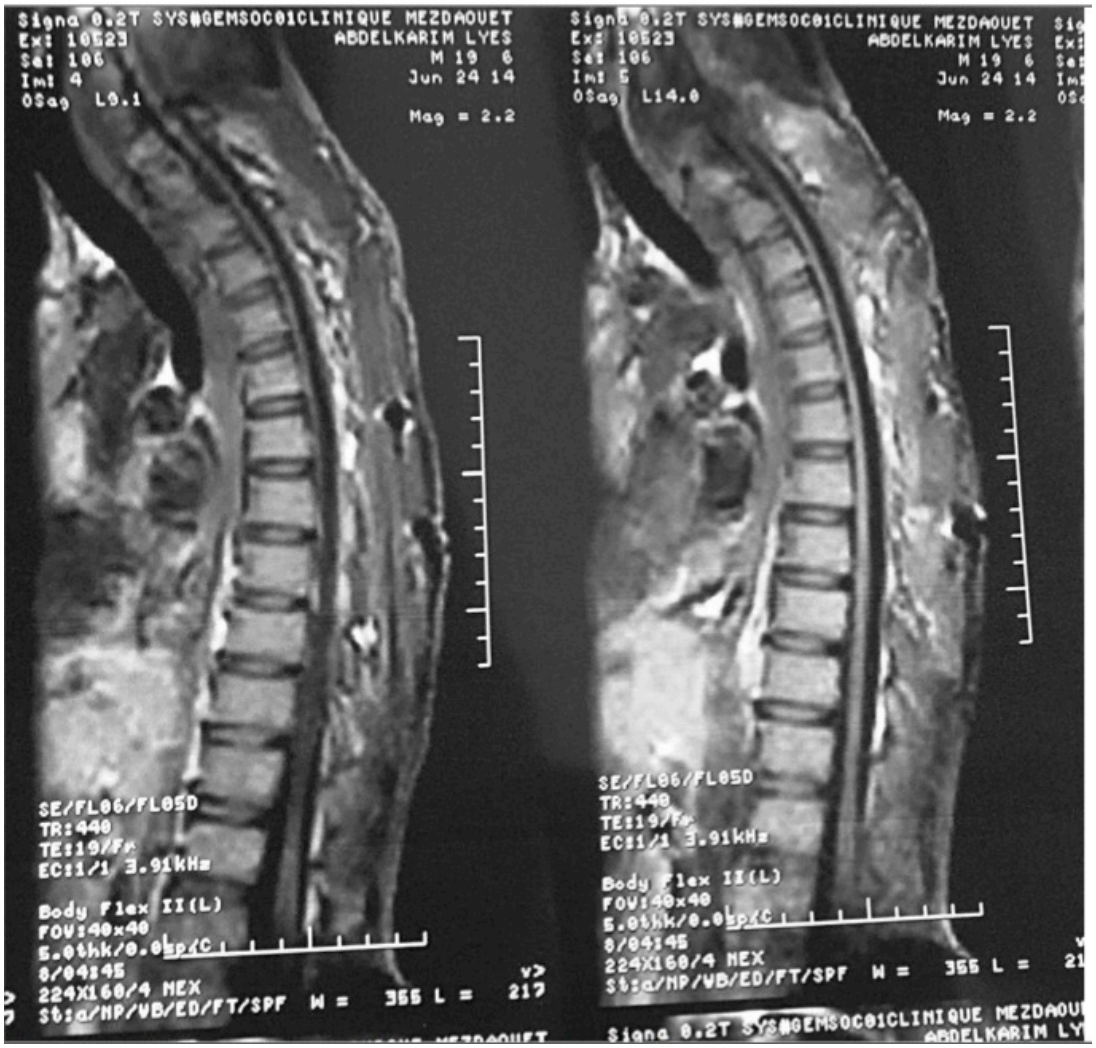

MRI of control confirming total resection of lipomatosis

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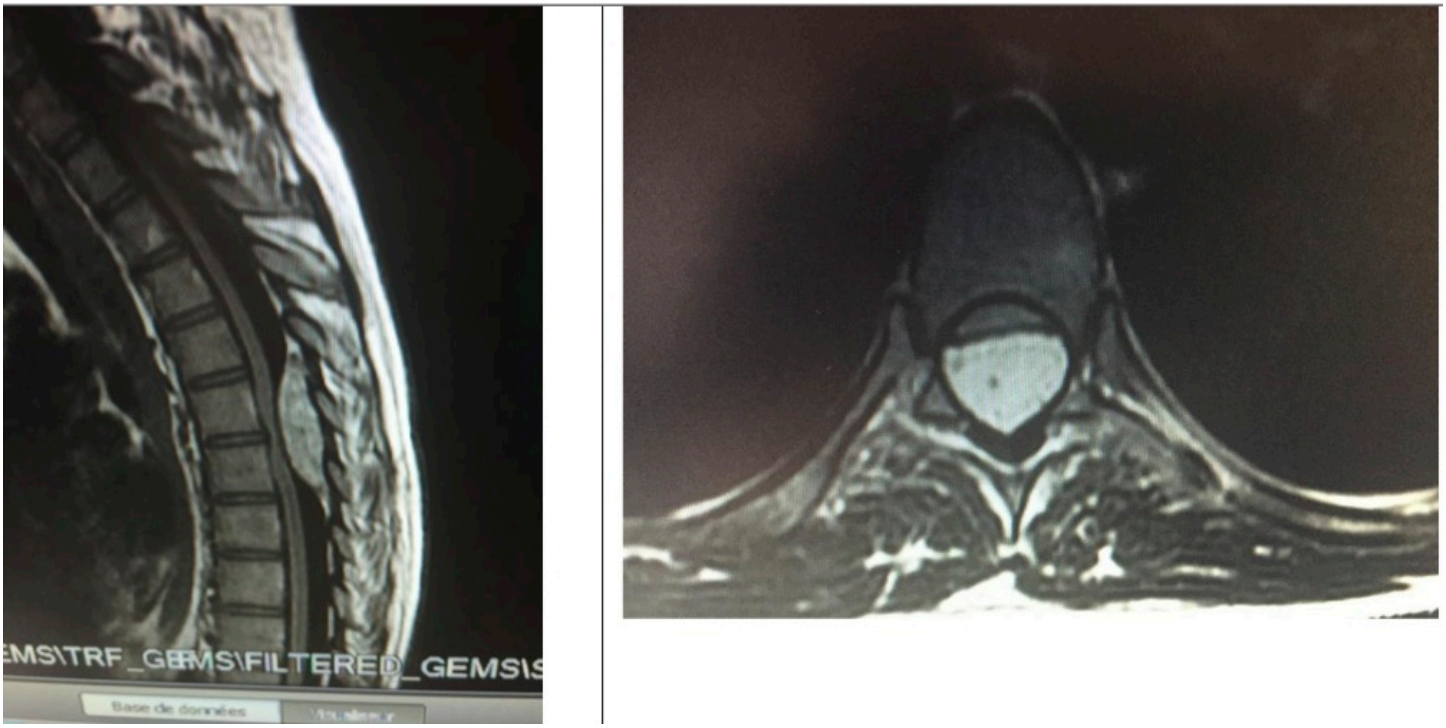

Sagittal and axial thoracic MRI in T2 sequence showing dorsal medullary compression by angiolipoma

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