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Lumbar Epidural Lipomatosis in Pregnancy Case report and literature review

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ABSTRACT: The spinal epidural lipomatosis is often affecting a male adult obese and unknown mechanism. It is rare in female. The occurrence of this pathology during the pregnancy is unpublished. The neurological disorder occurrence makes this benign pathology surgical emergency. The spinal decompression surgery during lipomatosis in pregnant women should not necessarily be associated with premature delivery by caesarean section. The functional prognosis depends on the precocity of therapeutic management. We report the case of a 25-year-old pregnant woman with lipomatosis revealed by ponytail syndrome. She underwent decompression surgery with good outcome.

KEYWORDS: lipomatosis, epidural, spinal, pregnancy. Pregnancy, lumbar spinal, epidural, lipomatosis

I. INTRODUCTION

Spinal epidural lipomatosis is characterized by an accumulation of adipose tissue in the epidural space that leads to clinical symptoms. Once, rare pathology, it is more diagnosed on date through magnetic resonance imaging (MRI). The occurrence of spinal epidural lipomatosis during pregnancy is exceptional and poses a therapeutic problem. The authors report a lumbosacral lipomatosis revealed by caudiaequina syndrome in 25-year-old woman with 35-week pregnancy. The lumbar lipomatosis in woman is rare and anterior variety is unpublished.

The objectives of this work was to report our case on the association of lipomatosis with pregnancy; and discuss through literature data the problem of non-obstetrical surgery during pregnancy

II. CLINICAL OBSERVATION

A 25-year-old woman with 26 of a body mass index (BMI) at parity on two pregnancies, hospitalized in the gynecology ward for premature rupture of the diaphragm over a pregnancy 35 gestational weeks. Eight days later, she reports an increase in the intensity of an old low back pain that has been evolving for a few months. Faced with the failure of analgesic treatment at levels 1 and 2, the patient is put on morphine. The evolution is marked by the secondary installation of hypoesthesia in the territories of L5 and S1 rights. Three-day occurrence of motor impairment in the lower right limb in the L5 and S1 territories, associated with hypoesthesia in the saddle and urinary disorder. Magnetic resonance imaging MRI of the lumbar spine showed a process occupying an epidural space and located on the anterior surface of the dural sheath. This lesion is located at the back of the vertebral bodies of L5, S1 and S2, compresses the dural sac by pushing it back against the vertebral blades. It appears in hypo signal T1 and hyper signal T2 (Fig.1). Surgical decompression of the roots of the caudiaequina was performed by L5 laminectomy. This surgery was preceded by a cesarean surgery performed urgently on a suspicion of compressive epidural hematoma. The Caesarean surgery was able to extract a 2700-gram fetus with a 9-in-10 APGAR. After the laminectomy surgery, the exploration of the anterior part of the dural sheath found an accumulation of fatty tissue associated with turgid epidural veins. Anatomopathological examination of the operative specimen found a lipomatosis. The post-operative course was simple marked by early recovery in three days of the neurological deficit L5, S1. The postoperative MRI and angio-MRI did not find epidural spinal vascular diseases (Fig.2). The subsequent evolution was without particularities.

III. DISCUSSION

The epidural lipomatosis is an unencapsulated fat deposit in spinal epidural space [1] that was firstly described in 1975 by Lee et al. [2]. Its physiopathological mechanism is not very well known. The idiopathic lipomatosis should be distinguished from corticosteroid-induced lipomatosis (Cushing's syndrome, prolonged corticosteroid therapy) [6]. The idiopathic lipomatosis is more common in obese males. Until 2007, only about 40 cases of idiopathic epidural lipomatosis were reported in the literature [7]. The idiopathic lipomatosis is often located in lumbar spine [8].

Our patient was not overweight and has no significant medical history. However, hyperproduction of corticotrophic hormone during pregnancy can lead to the occurrence of this epidural lipomatosis in pregnant women? On date there are any studies to confirm our hypothesis. This statement deserves to be explored by subsequent studies in search of genetic predispositions because pregnant women with epidural lipomatosis are unpublished. The most recent case published on this unusual association does not answer our questions [9].

In its lumbar location, as in our patient, the painful spinal syndrome and root lesions are constant without deformity of the spine. The sphincter disorders in the context of a caudaequina syndrome are rare [10]. In our observation, the MRI showed significant compression of the lumbar spinal roots. The radiological characteristic image is trifoliate or "Y" appearance of the dural sheath on CT-Scan and MRI axial is due to posterior compression of the dura matter. In contrast, we reported an anterior epidural spinal location. This location is unpublished. CT-scan alone may be sufficient to guide the diagnosis of root compression in the spinal canal. But this examination can lead to fetotoxicity at certain ages of pregnancy. MRI examination is useful in diagnosing spinal epidural lipomatosis, and to differentiate it from Lipoma and Filum terminale Lipoma, as lipoma is a discrete mass lesion with a capsule and Filum terminale lipoma is located within the thecal sac [3].

The management of clinical epidural idiopathic lipomatosis is mainly surgery. That may be performed in emergency before installation of neurological disorders. The indication of spinal surgery in the pregnant woman raises a great deal of concern about the preservation or not of the pregnancy, the type of anesthesia and the installation of the patient in a surgical position. The realization of cesarean section before spinal surgery proposed by some authors [9] is controversially discussed. Premature delivery by caesarean section performed in our case. This attitude indicated systematically in cases of spinal neurological disorder in a pregnant woman should be reviewed. The results obtained after lumbar disc herniation surgery in patients in pregnancy had allowed some authors to support the indication of spinal surgery at all stages of management in a neurological emergency without resorting to premature labor [11; 12].

The problem of the surgery is first for the patient the installation operative position with logs (thoracic and iliac) higher so that the abdomen and the small pelvis are in the vacuum while avoiding compression of the aorta and vena cava. The lateral decubitus is an interesting alternative to avoid compression of the abdominopelvic vessels. For the fetus, the risk may be potential exposure to anesthesia drugs and the onset of premature labor.

Mazze and Källén [13] in their cohort of 5045 patients who underwent non-obstetric surgery during pregnancy found rates of congenital anomalies and stillbirths similar to those of non-surgical pregnant patients. Kanas et al [11] in the literature review of their case report reported that no study found an association between improved prognosis of the fetus and a specific anesthetic technique, with the exception of one single retrospective analysis in which the use of general anesthesia was associated with low birth weight of the newborn. In our observation, caesarean surgery and decompression surgery of the caudaequina were performed under general anesthesia. The L5 laminectomy without excision of lipomatosis achieved a satisfactory result marked by the total regression of neurological symptoms. The epidural venous turgor found in our patient could be explained by the fact that under the effect of the abdominal hyperpressure linked to the gravid uterus, the pelvic venous blood and lower limbs is partly derived towards the vertebral venous system, creating engorgement of the epidural venous plexuses. The early onset of decompression of neurological structures may explain the rapid clinical improvement in our observation.

IV. CONCLUSION

The occurrence of lumbar epidural lipomatosis in a pregnancy is very rare situation and mechanism not yet well known. Mainly surgery is performed in severe neurological disorders. This surgical decompression can be performed without performing a previous Caesarean surgery. The success of the treatment depends on the good collaboration between the obstetricians, the neurosurgeons and the anesthesia team.



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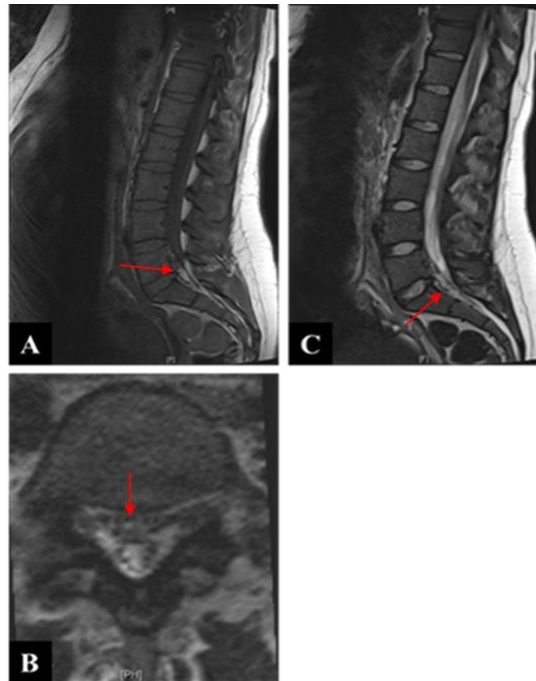


Fig.1: Lumbar spine MRI

- A. T1 Sagittal section, epidural anterior lesion hypointense (arrow)
- B. T1 axial section epidural anterior lesion hypointense (arrow)
- C. T2 sagittal section, epidural anterior lesion hypersintense (arrow)

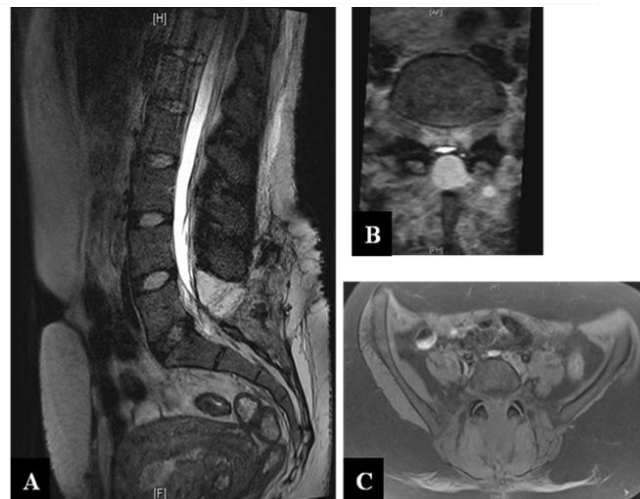


Fig.2: Postoperative Lumbar spine MRI

- A. T2 Sagittal section, Decompression of the dural sheath.
- B. Axial section L5 angio-MR absence of vascular abnormality
- C. Axial section sacrum angio-MR absence of vascular abnormality



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