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Case Report

Lumbar Morel-Lavallée Lesion: Clinical Case and Review of the Literature

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Abstract: Morel-Lavallée syndrome corresponds to a serolymphatic effusion which generally forms after a tangential trauma next to a richly vascularized tissue. This lesion has been rarely reported, explaining that the diagnosis is often unrecognized. While treatment may be conservative or minimally invasive at an early stage, invasive management is required in the event of diagnostic delay. In addition, untreated lesions can lead to pain, superinfection or progressive subcutaneous swelling that can be confused with soft tissue tumors.We report the observation of a 25-year-old young man with a large Morel effusion- Lumbar cavity diagnosed early. We also carried out a review of the literature to summarize the main diagnostic criteria and the management methods.

Key words: Lumbar effusion; Tangential trauma; Morel-Lavallee.

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OBSERVATION

A 25-year-old young man had presented, following a fall from a horse on the lumbar region, a significant swelling of the soft parts in front of the lumbar spine. Palpation found a fluctuating subcutaneous mass. There was no biological inflammatory syndrome. The soft tissue ultrasound identified a fluid collection. The tomodensitometric examination found an extra aponeurotic subcutaneous effusion of the para-vertebral soft parts. The clinical and radiological characteristics of this picture made it possible to retain the diagnosis of post-traumatic effusion of Morel-Lavallée.

Figure 1: Axial and sagittal scannographic sections: well-limited fluid formation of the para-vertebral soft parts measuring 12x4.5cm extended over 24cm

DISCUSSION

Morel-Lavallée syndrome, described in 1863 by Maurice Morel-Lavallée, is generally secondary to a sudden tangential trauma involving highly vascularized tissue [1]. This tangential shock is often linked to the practice of a high-risk sport (skiing, combat sports, etc.) or to an accident with a high-speed machine, as in our patient. Sometimes less severe trauma in elderly subjects, on anticoagulant therapy or with haemostatic

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disturbance. Cases of Morel-Lavallée syndrome have also been described in postoperative contexts, particularly after surgery for abdominoplasty [2, 3]. It usually sits on the thighs, hips opposite the greater trochanter, more rarely in the abdomen, lumbar region, calves [4, 5]. More exceptional observations of Morel-Lavallée syndrome localized to the scalp have, however, been described, again following a fall from a motorcycle [6]. On initial shock, the hypodermis detaches from the underlying muscle fascia. In this plane of cleavage takes place a tangential section of the lymphatics, making lymphostasis impossible. Due to the local inflammatory reaction, a fibrin capsule then forms which perpetuates the effusion [4, 5, 7]. Morel-Lavallée syndrome is more common in women [8] and is often underdiagnosed because of a free interval of up to several years between the initial trauma and the onset of symptoms [9]. It is most often an unusual and indolent subcutaneous swelling.The clinical presentation of Morel-Lavallée syndrome can also be that of a pseudotumor when the diagnosis is not made in the early post-traumatic period [7, 6, 5]. The major risk is the superinfection of the collection. The main differential diagnoses which can be evoked in front of this type of clinical picture are the abscess and the superinfected hematoma.

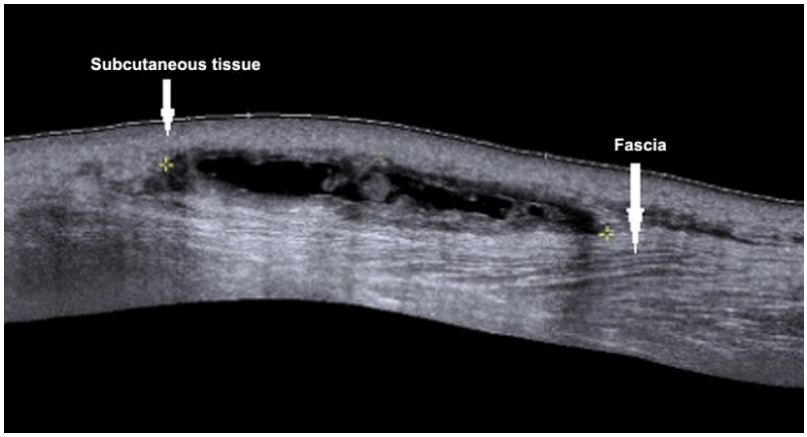

Figure 2: Ultrasound transverse section facing L2, showing a well-limited hypoechoic collection between the subcutaneous tissues and the fascia

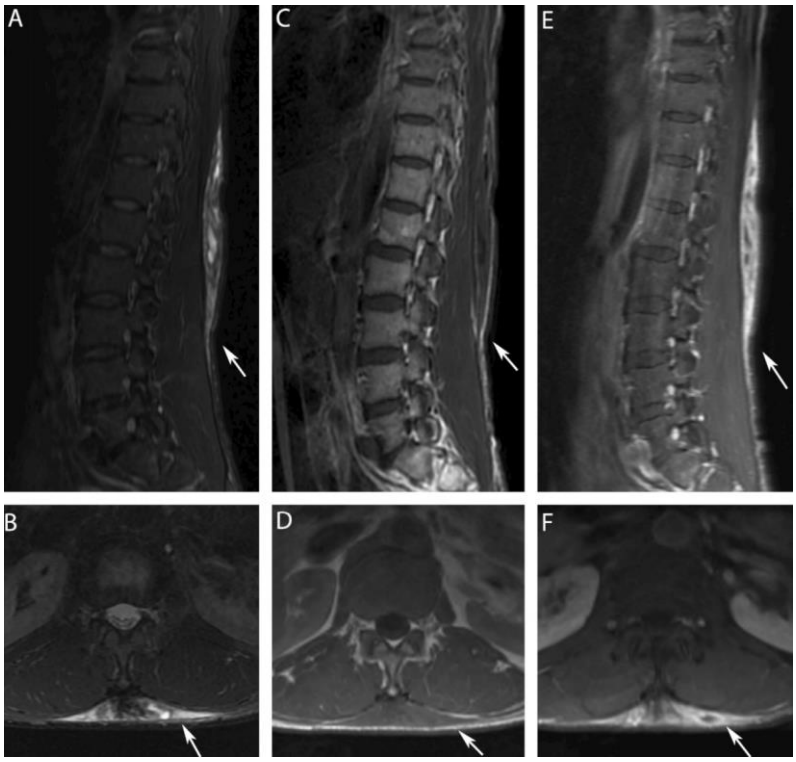

Figure 3: MRI in sagittal (A, C, E) and axial (B, D, F) sections of the lumbar spine taken 2 years after the trauma. The T2-weighted sequences (A, B) show a hyper-intense lesion (arrow) between the subcutaneous tissues and the fascia. The T1-weighted sequences (C, D) show a hypointense lesion enhanced by gadolinium (E, F)

The ultrasound appearance of these different entities is similar and varies according to the age of the lesion. In Morel-Lavallée syndrome, ultrasound reveals a hypo- or even anechoic collection located between the hypodermis and the superficial fascia, sometimes associated with the presence of echogenic zones corresponding to fatty debris [8]. It is essentially its superficial location, between the fascia and the hypodermis, which makes it possible to distinguish the Morel-Lavallée effusion from other lesions on ultrasound [9]. Magnetic resonance imaging (MRI), when it is accessible, usually shows a very limited spindle-shaped collection, the signal intensity of which varies according to the age of the lesion, however most often with a hyperintense lesion on T2-weighted sequences [4]. The CT scan can show the peri-lesional fibrin capsule. Finally, the cytological analysis of the liquid, as well as its protein concentration, allow the differential diagnosis with lymphoceles, which can also occur in a post-traumatic context, as well as with other lesions such as abscesses or tissue tumors. soft [9]. For low abundance, non-encapsulated effusions, puncture-drainage of the collection and a compression bandage can avoid surgery.

CONCLUSION

Lumbar Morel-Lavallée syndrome has only been rarely reported and remains a largely unrecognized entity. Its rapid recognition will make it possible to carry out a local gesture (puncture, then compressive bandage). Late diagnosis leads to an organization of the effusion which will most often require surgery.

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