Chronic Morel-Lavallée Lesion of the Thigh Containing Mobile Fatty Globules in a Large Degloving Chamber Deep to a Posttraumatic Pseudolipoma—Imaging Correlation

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Abstract
Morel-Lavallée lesions (ML) are post-traumatic collections due to shearing injury and disruption of the interfacial planes between subcutaneous soft tissue and muscle. Seromas, sub acute hematomas and chronic organizing hematomas are the more frequent findings. We present a more chronic case with a subcutaneous lateral posttraumatic pseudolipoma (PTPL) in the vicinity to a large degloving cavity containing freely moving fatty pearl-like globules. Confirmation to the fatty content, evoked on MRI, was confirmed by histology and CT scan.

Keywords: Morel-Lavallée lesion; Closed degloving injury; Posttraumatic pseudolipoma

Case Report
A 59 year-old female patient consulted for a painless swelling lateral to the greater trochanter and the upper thigh. She recalls a shearing type injury without fracture two years earlier, with a large hematoma and swelling that did not disappear with the pain. Clinical examination shows a locally increased thickness of the subcutaneous fat, with some retraction at the inferior border.

MRI exam showed a T1 and T2 hypointense dissection of perifascial planes adjacent to the fascia latex tending posteriorly as a closed laceration of the subcutaneous fat. The lesion had a cranio-caudal extension of 13 cm, contained some hyperintense T2 and hypointense T1 fluid and multiple hyperintense globules, on both T1 and T2 sequences. Gradient echo images did not show hemosiderin deposition in those nodules, whose dimensions varied from 6 to 19 mm (Figure 1 A–D).

Under a hypertrophic subcutaneous lipomateous layer, the surgeon found a large collapsed cavity of about 15 cm in diameter that contained several white pearl-like freely moving globules (Figure 2). They were removed (Figure 3). This was followed by a 160 cc liposuction, a complete capsulectomy and padding of the cutaneous-fatty flap by Vicryl R. Histology showed the nodules to be devitalized adipose tissue, post-necrotic and bordered by a dense fibrous capsule (Figure 4).

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Figure 1: Axial T1 weighted axial slices from above to below showing the T1 hyperintense nodules (arrows) and the dissection plane in the juxta fascial area (Figure 1B) and in the subcutaneous fat (Figure 1D).

Figure 2: Coronal T2 weighted images showing the globules (arrows) and the dissection plane (arrowheads). Globules on figure 2B are surrounded by a small amount of fluid (curved arrow) focal fat hypertrophy (large arrow).

Figure 3: Preoperative picture of the large degloving cavity containing the white pearl-like fat globules (arrows).
which subsequently gets filled with hematoma and liquefied fat. Such closed internal degloving lesions usually develop over the greater trochanter and are known as Morel-Lavallée lesions [3].

Seromas, subacute hematomas and chronic organizing hematomas are the more frequent findings. MRI imaging is the diagnostic modality of choice to help characterize them, and a MR classification was proposed [2]. Long standing lesions present more atypical imaging features of perifascial dissection and closed fatty tissue laceration [2] with or without serous/hemorrhagic collections.

We present such a case of a wide laceration of the perifascial fat, around and below the greater trochanter containing numerous structures, in the form of white pearls, mobile in the cavity. Such closed internal degloving lesions usually develop over the greater trochanter and are known as Morel-Lavallée lesions [3]. Seromas, subacute hematomas and chronic organizing hematomas are the more frequent findings. MRI imaging is the diagnostic modality of choice to help characterize them, and a MR classification was proposed [2]. Long standing lesions present more atypical imaging features of perifascial dissection and closed fatty tissue laceration [2] with or without serous/hemorrhagic collections.

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Patient had an uneventful recovery, with no recurrent deformity. She did not complain of any sensory or vascular change, or chronic swelling in this leg (Figure 5).

**Discussion**

The patient's only clinical complaint was a posttraumatic pseudolipoma (PTPL) deforming the lateral part of her thigh. It is well known that such unencapsulated PTPL may develop at the site of large posttraumatic hematomas [1]. This atypical chronic ML lesion [2] is seen on MRI imaging as a large scar-like plane superficial to the fascia lata containing hyperintense globules in a large degloving cavity.

In closed degloving injuries, the shearing forces create a cavity which subsequently gets filled with hematoma and liquefied fat. Such closed internal degloving lesions usually develop over the greater trochanter and are known as Morel-Lavallée lesions [3].

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**Conclusion**

Morel-Lavallée lesions are secondary to closed shearing injury and disruption of interfascial planes between subcutaneous soft tissue and muscles. Various type of collection can be encountered in early and subacute states. We describe here a very late presentation where the large degloving cavity contained numerous pearl-like globules of fatty content. The patient's only complaint was related to the accompanying posttraumatic pseudolipoma.

**References**


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