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## A rare case report of chronic morel-lavallee lesion: Management and review of literature

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### Abstract

A Morel-Lavallee Lesion (MLL) is a closed traumatic soft tissue degloving injury characterized by separation of the dermis from the underlying fascia due to a shearing force often seen in the polytrauma patient with underlying pelvis or proximal femoral fractures. This process leads to the development of a potential space in which fatty tissue, blood and necrotic debris can collect and can potentially result in abscesses, cellulitis, or osteomyelitis. Most of these cases have predilection for the greater trochanter, gluteal musculature at hip, proximal femur and around the knee. Here, we present a case of a morel lavallee lesion in left hip in a 24 year old male who presented to us with a cystic swelling in left hip and its further management.

**Keywords:** morel lavallee lesion, hip, swelling, excision biopsy

### Introduction

The Morel-Lavallée lesion is a closed degloving injury, usually following an event of blunt trauma to the body. The high-energy shearing forces separates the skin and subcutaneous tissues from the solid underlying fascia thus creating a potential space between the hypodermal tissue and the fascia, which subsequently fills with necrotic fatty tissue, blood and lymph products, resulting from the disruption of perforating blood and lymphatic channels leading to a chronic inflammatory reaction<sup>[1,2]</sup>. If this lesion is not managed timely, then the developed space becomes encapsulated and gets lined by a fibrous capsule containing necrotic material, debris and fibrin<sup>[3]</sup>. Morel-Lavallee lesions usually present as painful fluctuant swelling in the involved sites. Many of these lesions are liable to be missed at the initial evaluation of the patient and present weeks to month after initial trauma.

### Case report

A 24 year old male presented to us in the OPD with complaint of a cystic swelling in his left hip from last 6 months. There was history of road traffic accident 6 months back prior to the development of the swelling. Swelling had gradually increased in size over time. Incision and drainage was done 4 months back but there was recurrence of the swelling after 1 month of drainage. Patient presented to us with pain and cystic swelling in his left hip. Aspiration of fluid was attempted and around 350 ml reddish black colour fluid was aspirated. But the swelling did not subside and again increased to its present size of 102 x 84 x 75 mm. A detailed clinical examination was done to assess the general condition of the patient, status of the neighbouring joints and presence of any associated injuries or lesions. On physical examination, the swelling was painful, compressible and non-reducible. No neurovascular deficit was associated with the swelling. There were no dilated veins present over the swelling. There were no scar or sinus associated with the swelling. X ray of the affected hip and MRI scan was done preoperatively to locate the extent of the swelling, extraosseous extensions and involvement of neurovascular bundle.

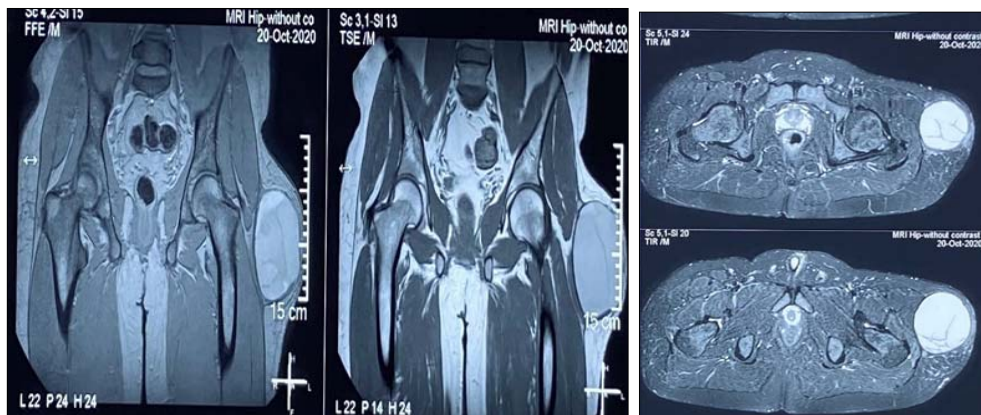
MRI was suggestive of a well-defined encapsulated complex cystic lesion in relation with superficial fascia of left tensor fascia lata muscle and iliotibial band at the level of lateral aspect of pelvis/ upper thigh, bulging into the subcutaneous soft tissue with multiple thin intralesional septae and fluid- fluid levels- possibility of chronic hematoma with differential diagnosis of benign myxoid soft tissue tumour.

Routine laboratory investigations e.g. complete hemogram, bleeding time, clotting time,

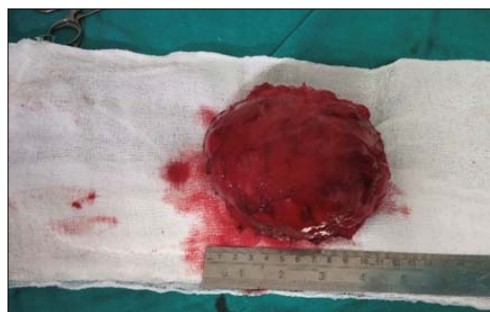
blood urea, blood sugar, serum electrolytes, urine complete examination, ECG and chest x-ray was done for pre anaesthetic evaluation and preoperative planning for surgical excision. Patient was taken up for excision biopsy under regional anaesthesia. The swelling was completely removed and mass was sent for histopathological examination. The excised mass was 11x9 cm in size. Patient was discharged from the hospital in stable condition. Sutures were removed on 14th day after surgery. Post op follow up of the patient was uneventful without any recurrence. On histopathological examination, microsections showed soft tissue comprising fibrocartilaginous, fibroadipose and fibromuscular tissue enclosing a cystic cavity filled with blood clot and fibrinous exudates. Histopathological diagnosis was compatible with clinical diagnosis of Morel Lavallee lesion.



**Fig 1:** Preoperative x-ray showing left hip swelling



**Fig 2:** Preoperative MRI images showing swelling in left hip



**Fig 3:** The excised swelling

## Discussion

The Morel-Lavallée lesion is a rare clinical condition that was first described by the French physician Maurice Morel-Lavallée in 1853 [4]. It leads to a shear of skin and subcutaneous tissue from the neighbouring fascia followed by the development of a blood-filled hollow space at predestined regions of the body. The inflammatory metabolic products start accumulating within the fluid and then potentiate cellular permeability and further exacerbate the leakage into the created void. This fluid then becomes surrounded by the granulation tissue, which may result in the formation of a fibrous pseudo capsule layer that prevents fluid resorption and has predilection toward abscesses, cellulitis or osteomyelitis due to a chronic fluid collection [5, 6]. The majority of authors have suggested in the literature that once the lesion is identified, the hematoma must be evacuated adequately and all the necrotic tissue must be removed as neglected lesion can become infected, complicating the management of the lesion [7, 8]. Early diagnosis is necessary to allow conservative or non-invasive treatment and to avoid the occurrence of infectious complications. It remains primarily a clinical diagnosis. There is no available treatment consensus due to the rarity of this clinical entity. Conservative management accompanied by close monitoring of the patient can be done in the acute phase for small size lesions. Simple compression, activity cessation and rest are adequate for conservative management of these lesions. When diagnosed late, the presence of a thick capsule does not allow for a spontaneous healing of the lesion [9, 10]. Similarly, percutaneous treatments have not been proven to be effective for these lesions. Surgery is recommended in such cases not responding to the conservative management and for chronic lesions, to relief symptoms and to avoid the occurrence of complications.

## Conclusion

Although Morel Lavallee lesions are rare and not so common presentations in the clinical settings, surgeons should maintain a high clinical suspicion in patients presenting after blunt trauma injuries with persistent pain, and fluid collections noted on advanced imaging of the tissues. Conservative management can be initiated if discovered acutely, but if the lesion is left untreated, it may complicate and may require surgical intervention as described in this case report.

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