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Morel- lavallee lesion: A case report

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Abstract
Background: Morel-Lavallee Lesion (MLL) is a closed soft tissue degloving injury occruing following a blunt trauma. This lesion almost always occurs after direct trauma to the pelvis, thigh, and knee, soft tissue overlying bony prominences like greater trochanter, lower back and scapula. Imaging studies like Ultrasonography (USG), Computed Tomography (CT) and Magnetic resonance imaging (MRI) can be used for the diagnosis.
Case Report: A 38 years old male presented with a swelling over the right thigh since 15 days following a trauma. The swelling had gradually increased in size with no history of fever or weight loss. The X-ray of the right thigh revealed soft tissue density and the involvement of the underlying bone was ruled out. Surgical excision specimen of the same was sent for histopathological examination.
Conclusion: Morel-Lavallee Lesion is not commonly encountered entity. However, history of trauma over bony prominences, imaging studies followed by histopathological examination can aid in early diagnosis and management of patients.

Keywords: morel-lavallee lesion, degloving injury, post-traumatic pseudocyst

Introduction
In 1863, Morel-Lavallee lesion was first described by Maurice Morel-Lavallee in a unique post-traumatic patient who fell from a moving train and developed a fluid collection [1, 2]. The synonyms used in the literature are ML effusion or hematoma, post-traumatic pseudocyst, post-traumatic soft tissue cyst, closed degloving injury or chronic expanding hematoma [1]. Morel-Lavallee lesion refers to a benign cystic lesion occurring within a potential space between the subcutaneous tissue and the underlying fascia [3]. This lesion almost always occurs after direct trauma to the pelvis, thigh, knee, overlying bony prominences like greater trochanter, lower back and scapula [1, 4]. However, the actual incidence may be higher as these lesions can occur in post-operative cases, especially following liposuction [5, 6] without any underlying fracture and persists subclinically [1]. The high energy blunt injury exerting tangential shear force to the relatively mobile subcutaneous tissue, perforating blood vessels and lymphatics [2, 7] which in turn is torn away due to inertia from the firmly attached underlying fascia is the explanatory mechanism for this lesion [3]. These events leads to a hypovascular suprafascial space in which fluid easily accumulates [1]. Some of the predisposing factors include the superficial position of the femoral cortex, relative mobility of the subdermal soft tissues and strength of the underlying tensor fascia lata. Overtime, there is resorption of the hemorrhagic elements, increasing serosanguinous fluid and progressive fibrous encapsulation, hindering resorption and thus leading to a slow continued expansion [5, 6].

Case Report
A 38 years old male presented with a swelling over the right thigh since 15 days following a trauma. The swelling had gradually increased in size with no history of fever or weight loss. On physical examination there was a well-defined fluctuant swelling over the lateral aspect of right thigh measuring 5x4x2 cms in size. The surface of swelling was smooth with no local rise of temperature or pain. The swelling was mobile over the surface of the underlying muscle. The X-ray of the right thigh revealed soft tissue density and the involvement of the underlying bone was ruled out. Surgical excision specimen of the same was sent for histopathological examination. The specimen consisted of few membranous glistening tissue bits and on histopathological examination on H&E stain showed amorphous eosinophilic material with hemosiderin and lipid laden macrophages, foamy macrophages, fat necrosis, sparse inflammatory cell infiltrates and haemorrhage. The diagnosis of Morel-Lavallee lesion was given after correlation with history and radiological findings.

Discussion
Morel-Lavallee lesion is a closed degloving injury which is often misdiagnosed. It occurs due to blunt trauma with tangential shear force, separating the hypodermis from the underlying fascia followed by accumulation of necrotic debris and haemorrhage. Various imaging modalities like Ultrasonography (USG), Computed Tomography (CT) and Magnetic resonance imaging (MRI) can be used for the diagnosis.

The differential diagnosis for this lesion include subcutaneous hematoma, hemangioma, fat necrosis and soft tissue sarcoma. Complete Clinical History, Imaging and histopathological examination may be useful in the diagnosis and appropriate management.

Fig 1: Soft tissue density over right thigh.

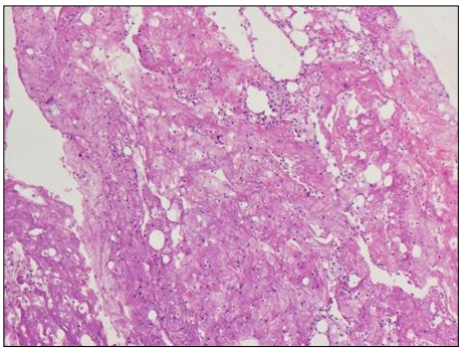

Fig 2: Amorphous eosinophilic material. H&E, x4

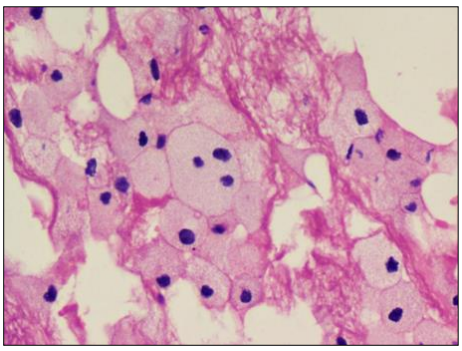

Fig 3: Clusters of Foamy macrophages. H&E, x40

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