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Morell-Lavallée Lesion(MLL) in Right Thigh: A Case Report

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Abstract

Morell-Lavallée Syndrome (MLS) is a post traumatic subcutaneous cyst caused by separation of the skin and subcutaneous tissue from the underlying deep fascia generally seen on overlying bone prominences like greater trochanter, lower back, knee and scapula. We report a case of Morell-Lavallée lesion involving the thigh in a 73 years old male.

Keywords: MLL; Morel-lavellee lesion; Subcutaneous cyst; Thigh

Introduction

Morell-Lavallée lesions is a traumatic separation leading the skin to separate from the subcutaneous tissue of the underlying muscular fascia. Such separations lead rupture of small perforating vessels in this region, resulting in the formation of a cavity that may be filled with blood, lymph, fat foci and sometimes necrotic materials [1,2]. Morel-Lavallée lesion first described in the lateral aspect of the proximal thigh, which is the most common site of this lesion, however other sites such as like greater trochanter, lower back, knee and scapula have been described [3,4]. In the present article, we describe a case of Morell-Lavallée lesion of thigh in a 73 years old male.

Case History

A 73 years old male presented with swelling in right thigh from eight years ago. The swelling was gradually progressive in size during five months ago. It is not associated with pain, fever and discharge and there is no weight loss or loss of appetite. He met an accident leads to hip dislocation and a fracture in leg in past history. There is no anticoagulant therapy in medication. Physical examination reveals a swelling in the thigh measuring 14 cm in greater dimension. The swelling was globular in shape with smooth surface with no tenderness and local rise in temperature and and shows cystic feature on physical examination. Soft tissue ultrasonography revealed an oval shape mass like lesion of 115×52×65 mm which is non-vascular in color mode. It is 12 mm away from skin surface. MRI revealed very well encapsulated oval or fusiform mass like lesion of 10×5×5 cm size within subcutaneous fatty tissue of lateral aspect of right thigh, the lesion is situated over fascia between skin and underlying muscle, containing a fluid-fluid level with upper fluid content of high signal intensity in PDFS sequence and lower fluid content of moderate signal intensity in both T1 weighted and T2 weighted sequence containing some debris and some mural nodules, after injection of contrast no enhancement is demonstrable in different parts of this lesion either in its wall or in internal solid appearing components and mural nodules. Patient supposed to be undergone surgical excision, he underwent surgical exploration and removal of this cystic formation. Gross exam shows one grayish tissue fragment measuring 14×8×4.5 cm which has cystic appearance with maximum diameter of 13 cm and contains necrotic and granular brown materials. (Figure 1)

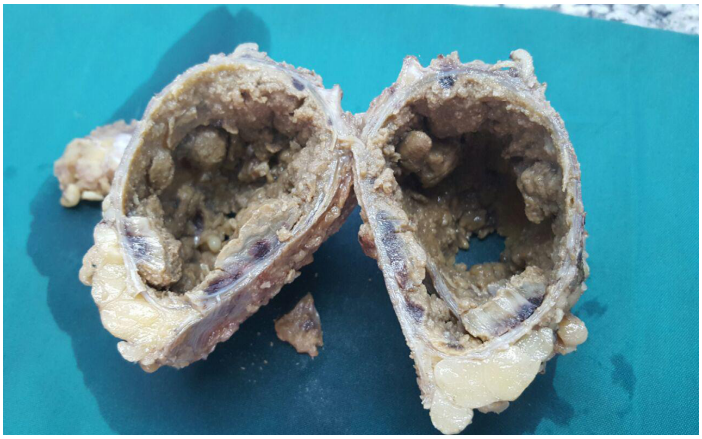

Figure 1: Macroscopic view of the tumor.

Staining with hematoxylin and eosin was done. Histologically, tumor shows cystic lesion which contain necrotic and also eosinophilic amorphous material lined by fibrofatty tissue, hemosiderin laden macrophage and foamy histiocytes. Proliferative vascular channel and cholesterol clefts are also noted. All margins show fibrofatty tissue and some contain muscular tissue and only lateral margin shows necrotic debris. Histologic and also imaging and clinical findings compatible with moral lavallee lesion. No evidence of malignancy or sarcoma in this specimen. (Figure 2)

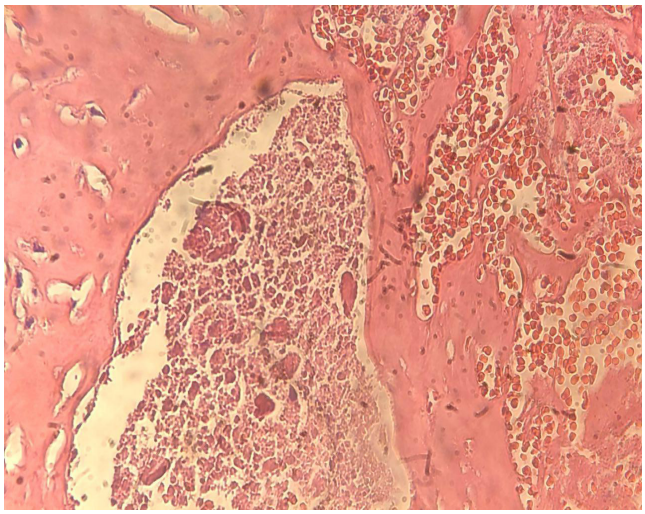

Figure 2: Microscopic view(H&E,40x).

Discussion

Morel Lavallee lesion is a cystic lesion caused by blunt injury and especially in degloving injuries. The subcutaneous tissue is torn away from the relatively firm underlying muscle fascia by tangential shear forces. This leads to create a potential space which is filled with blood, lymph and nerotic debris from the disrupted perforating vessels and capillaries [5]. Morel Lavallee lesions are more seen over the trochanteric region or anterolateral of thigh; other locations also reported such as the lower lumbar region, calf and gluteal region [2]. The creation mechanism of this lesion is not completely clear yet as it represents a rare entity. But some steps of the process have been identified; the initial formation of the potential blood-filled space, there is evolution of this haematoma with absorption of the blood, which replaced by serosanguineous fluid [6]. The last step in key steps of events is the formation of a peripheral fibrous capsule as anti-inflammatory reaction. The entrapment of fluid within the cyst may lead to a degree of chronic inflammation that may cause the enlargement of the lesion over the time [3]. The differential for Morel-Lavallée lesion include posttraumatic fat necrosis, coagulopathy-related hematoma, and posttraumatic early stage myositis ossificans [7]. It may be misdiagnosis with sinister condition like sarcoma. Treatments have a range from percutaneous drainage to surgical excisions [7,8].

Conclusion

We presented the rare case of a Morel Lavallee lesion of thigh. MRI is the best imaging modality for diagnosis of Morel Lavallee lesions. Treatments have a range from percutaneous drainage to surgical excisions. Surgical excision is the preferable treatment modality when the lesion is long standing or includes large volume of fluid. It is important to diagnosis the Morel Lavallee lesion from other differential diagnosis specially sinister conditions like soft tissue sarcoma. So, attention to history, clinical examination and imaging is very important.

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