Case report

Large Morel-Lavallée lesion presenting as fungating mass with skin ulceration

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ABSTRACT

A Morel-Lavallée lesion, a type of soft tissue degloving injury that has also been referred to as a chronic expanding hematoma, is a relatively rare condition that usually develops following traumatic injury. Here, we present a case of a 60-year-old male with a Morel-Lavallée lesion diagnosed over 5 years after a traumatic injury of the hip. He presented with a large fungating mass and overlying skin ulceration, which was highly suspicious for sarcoma. However, lack of other systemic findings and constitutional complaints, as well as negative imaging studies, did not support a diagnosis of malignancy. This information, combined with the history of remote trauma to the affected area, instead led us to suspect the alternative diagnosis of a Morel-Lavallée lesion. The diagnosis was later confirmed by pathology showing a chronic expanding hematoma. To our knowledge, a Morel-Lavallée lesion presenting as a fungating mass has not been previously described.

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1. Introduction

A Morel-Lavallée lesion, a type of soft tissue degloving injury, is a relatively rare condition that usually develops following traumatic injury. The pathogenesis of the lesion involves separation of the subcutaneous tissue from underlying fascia, usually due to violent tangential shearing force.^{1,2} This separation creates a cavity that fills with necrotic fat, as well as blood and lymph from the perforating vessels of the torn tissue.¹ The majority of reported Morel-Lavallée lesions involve the lower limb, and diagnosis of the lesion is often delayed as it can initially be overlooked or missed due to low index of suspicion.^{2,3}

The case we present here has several features consistent with a classic Morel-Lavallée lesion, including its location and timeline of development following a traumatic injury. However, unlike a classic Morel-Lavallée lesion, this patient presented with a large fungating mass with overlying skin ulceration that was highly suspicious for malignant sarcoma.

2. Case report

A 60-year-old previously healthy gentleman was transferred from an outside hospital with a fungating and bleeding mass on his

left hip. He reported being in a biking accident 5 years prior, in which he was hit by a small truck while riding his bike. His only injury was to his outer left hip. The patient reported no bony injury, but he did develop a possible hematoma in that location, the size of which he characterized as a “small grapefruit”. Although the lesion continued to gradually increase in size, the patient did not seek further medical care. Throughout the 5 years since the initial traumatic event and development of the lesion, the patient denied any pain or interference with his mobility. He biked approximately 20 miles every day to and from work and did not suffer any further traumatic injuries to the area. During the week prior to admission, the patient described the mass as “bursting” open with ulceration of the skin and bleeding from the site, which prompted him to seek medical attention. The patient denied any fevers, weight loss, or other constitutional symptoms.

On presentation, the mass on the patient's left hip measured approximately 15 cm by 20 cm (Fig. 1A). There was an opening in the skin measuring approximately 6–7 cm and black fungating tissue was visible through the opening (Fig. 1B). The mass was non-tender, non-fluctuant, and hardened with surrounding erythema. Given its physical appearance, there was high index of suspicion for sarcoma. Magnetic resonance imaging showed a large soft tissue mass within the lateral fascial planes of the hip with areas of rim and nodular enhancement and ulceration to the skin. The tissue was T1 isointense (Fig. 2A, B) and T2 heterogenous (Fig. 2C). These imaging findings were noted to be consistent with a Morel-Lavallée lesion, but were highly suspicious for sarcoma and

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Fig. 1. Clinical photographs at initial presentation show a left hip mass over 20 cm wide, pictured next to the patient's fist for relative size appreciation (A). Fungating tissue is visible through the skin ulceration (B).

malignancy could not be excluded. The patient subsequently underwent full body imaging. A nuclear bone scan showed no evidence of osseous metastatic disease and a CT scan of the chest, abdomen, and pelvis likewise showed no evidence of metastatic disease. An initial biopsy showed only necrotic tissue.

Given the large size of the mass and its fungating nature, surgical resection was completed for both management purposes and to investigate suspected malignancy. The patient underwent radical resection of the lesion with the specimen removed measuring 22.0 cm × 17.0 cm × 12.0 cm. Fasciocutaneous flap creation and

closure were necessary as the resection of the fungating portion of the lesion created a large soft tissue defect. After development of the fasciocutaneous flaps, the tensor fascia lata was detached from the iliac wing and separated from the gluteus maximus. The superior portions of the gluteus medius and minimus were then removed in continuity with the underside of the mass. A continuous layer of gluteus medius and minimus was left over the iliac wing and intact with the greater trochanter area. The resection bed following removal of the mass appeared to be excellent healthy tissue. The fasciocutaneous flaps were then rotated into position for full closure

Fig. 2. Magnetic resonance imaging of the left hip shows a large soft tissue mass within the lateral fascial planes of the hip with areas of rim and nodular enhancement and ulceration to the skin. T1-weighted fat-saturated post-gadolinium images showing an isointense mass presented in axial (A) and coronal (B) views. T2-weighted fat-saturated image shows a heterogeneous mass with areas of rim and nodular enhancement (C).

Fig. 3. Clinical photograph following surgical resection shows complete removal of the left hip mass and full closure of skin.

over the buttock, trunk, and trochanteric area and complex layered closure of the wound (35 cm in length) was completed (Fig. 3).

Final pathology of the lesion was consistent with a chronic expanding hematoma. Histologic sections of the subcutaneous lesion revealed organizing fibrin, mixed acute and chronic inflammation, and necrotic debris surrounded by fibrous tissues. There was no evidence of neoplastic tissue.

The patient had an uncomplicated recovery and was discharged home soon after the operation. He maintained full mobility of his left extremity and was able to ambulate normally on discharge.

3. Discussion

The case we present has features consistent with a classic Morel-Lavallée lesion. These lesions usually occur in areas surrounding the greater trochanter, buttocks, and knee, with involvement of the lower limb reported in the majority of cases.^{2,3} The 60-year-old gentleman presented here developed a Morel-Lavallée lesion involving the hip and following a traumatic event. Furthermore, the diagnosis was delayed, as is common in patients with Morel-Lavallée lesions. Lesions can be overlooked during initial presentation in the setting of more serious acute injuries or missed due to a low index of suspicion.^{2,3}

However, this patient's presentation has unique characteristics not described in classic Morel-Lavallée lesions. Classic clinical presentation usually involves a combination of swelling, bruising, fluctuant overlying skin, tenderness, and skin contour asymmetry.^{2–4} Recent case reports of Morel-Lavallée lesions involving the distal thigh, pre-patellar region, and pelvis have described lesions mainly presenting with swelling or evidence of ecchymosis.^{5–7} The patient described here presented with a large fungating mass and overlying skin ulceration. At first, this lesion was highly suspicious

for sarcoma. However, lack of other systemic findings and constitutional complaints such as weight loss, as well as negative imaging studies, did not support a diagnosis of malignancy. This information, combined with the history of remote trauma to the affected area, instead led us to suspect the alternative diagnosis of a Morel-Lavallée lesion.

Morel-Lavallée lesions have also been referred to as chronic expanding hematomas, which was the final pathologic characterization of this lesion. The entity was first described in 1980 by Reid et al., who categorized a chronic expanding hematoma as persistent and increasing in size more than a month after the initial hemorrhage.⁸ The diagnostic challenge of distinguishing between a chronic expanding hematoma and soft tissue neoplasm has been noted in a couple of case reports previously^{9,10}; however, in neither case did the chronic expanding hematoma present as a large fungating mass. In both reports, either biopsy or surgical intervention was required to make the final diagnosis. In our case, given the non-revealing biopsy result, surgical intervention was required for both diagnosis as well as optimal therapeutic management.

To our knowledge, a Morel-Lavallée lesion or chronic expanding hematoma presenting as a fungating mass has not been previously described. In a patient with a remote history of trauma and history of slowly progressive lesion, a Morel-Lavallée lesion must be kept at the forefront of diagnostic consideration. It is important to recognize that with delayed diagnosis this lesion can present as a fungating mass mimicking a malignant sarcoma despite its benign nature.

Author contributions

CER, SW, GL, and EO gathered clinical data and wrote the manuscript.

Conflicts of interest

The authors have none to declare.

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