Surgical Treatment of a Delayed Diagnosed Morel-Lavallee lesion: A Case Report

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Abstract

Morel-Lavallee lesions are uncommon closed degloving injuries that are typically caused by a post-traumatic soft tissue injury between the subcutaneous tissue and underlying fascia. These lesions are characterized by intact skin, which may hinder and delay diagnosis. We report the case of a patient who was mostly lying in bed after undergoing thoracic spinal surgery and reported pain and fluctuation due to fluid collection approximately 2 weeks postoperatively. Magnetic resonance imaging (MRI) showed a 14 cm×8 cm×5-cm fluid collection between the right fascia lata and subcutaneous fat. First, percutaneous drainage was performed and a pressure bandage applied. However, conservative treatment alone was ineffective; therefore, the lesion was excised completely via direct surgical incision. Morel-Lavallee lesions are often overlooked at the time of initial injury, which delays the diagnosis and leads to the formation of a capsule. Complete surgical excision is effective in these cases.

Keywords: Seroma, Soft tissue injuries, Capsule

Introduction

Closed degloving injury, also known as Morel-Lavallee lesion, are soft-tissue injuries caused by a sudden and strong shearing force that damages the underlying fascia, and area between the skin and subcutaneous tissue [1,2]. These types of lesions are usually caused by post-traumatic soft-tissue injuries and their incidence is rare [3,4]. Several cases treated using non-invasive treatment including percutaneous drainage, sclerotherapy, and compression dressing have been reported in Korea [5,6]. However, a case treated using surgical excision has not been reported. We describe a case of Morel-Lavallee lesion treated surgically.

Case

A 49-year-old man fell 2 m while working on the top of a truck. Based on the general examination performed in the emergency room (ER), he was diagnosed with a T9-10 fracture, and underwent posterior fusion. Approximately 2 weeks after the injury, a consultation with our department was requested upon the observation of a painful, soft mass in the patient’s right intertrochanteric region. During the physical examination, a fluctuating oval mass of approximately 14 cm×8 cm was palpated in the right intertrochanteric region. While taking his history, the patient remembered that he had hurt his right thigh during the fall. Magnetic resonance imaging (MRI) showed a 14 cm×8 cm×5-cm fluid collection between the right fascia lata and subcutaneous fat (Fig. 1). After the initial examination, we proceeded with conservative treatment including percutaneous drainage (175 mL of fluid was drained), and the application
of a compressive bandage. However, surgical treatment was planned when fluid collection developed again and another percutaneous drainage did not reduce the drained volume (70-175 mL). Gram staining and culture of the aspirated fluid in the lesion area were performed, but bacterial growth was not observed. A skin incision was made under general anesthesia and dissection performed to the inner fascia. A wide capsule was found between the subcutaneous fat and muscle fascia. Fluid and necrotic debris were irrigated. The lesion was completely excised during capsulectomy and the wound was closed with cutaneofascial sutures to reduce dead space (Fig. 2). The patient was discharged without complications or recurrence. An MRI obtained 2 months postoperatively confirmed that the size of the fluid collection in the lateral aspect of the subfascial area of the right intertrochanteric area decreased (Fig. 3).

Discussion

Morel-Lavallee lesions are uncommon injuries usually caused by a post-traumatic soft-tissue injury [3,4]. It occurs between the subcutaneous tissue and underlying fascia, and has been described as a closed degloving injury [3,4]. The lesions are characterized by intact skin, which may hinder and delay diagnosis [3].

Furthermore, diagnosis may even be more challenging in those with limited ambulation. In our case, the patient was mostly lying in bed after thoracic spinal surgery and reported pain and fluctuation due to fluid collection approximately 2 weeks postoperatively. At the time of presentation to the ER, the medical staff focused on the patient’s thoracic fracture, and considered the trauma on his thigh region to be a simple contusion, because of a lack of abnormal visual findings. Thus, they did not perform a more thorough physical examination or radiological testing. This suggests that physicians should learn how to differentiate between contusions and Morel-Lavallee lesions, primarily based on fluctuation and skin mobility [7]. Rha et al. [8] reported that symptom onset is delayed in approximately one-third of all patients, and symptoms can develop several months or even years after the initial trauma. Therefore, it is difficult to pinpoint the rele-
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The Morel-Lavallee lesion is a subcutaneous hematoma that develops after trauma, often overlooked at the time of initial injury. It is crucial to prevent a delayed diagnosis. If lesions mature, conservative treatment alone is ineffective; thus, surgical treatment is required. Taking an accurate patient history regarding trauma and performing a thorough physical examination are crucial to prevent a delayed diagnosis. Complete excision is needed in patients in whom capsules have formed.

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References