



## OLGU SUNUMU

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Deniz CANKAYA  
Bülent OZKURT  
Yalçın TABAK

Ankara Numune Eğitim ve  
Araştırma Hastanesi,  
Ortopedi ve Travmatoloji Kliniği  
Ankara, TÜRKİYE

### Treatment of Misdiagnosed Morel-Lavallee Lesion without any Fracture in an Obese Patient: A Case Report

Morel-Lavallee lesion is a rarely seen case in emergency department. Morel-Lavallee lesion without any concomitant pelvic or acetabular fracture is much rarer. A case report of an obese patient with misdiagnosed Morel-Lavallee lesion without any concomitant pelvic or acetabular fracture is presented.

**Key Words:** Morel-Lavallee lesion, obese, without fracture.

#### Tehşisi Atlanmış, Beraberinde Kırık Bulunmayan Morel-Lavallee Lezyonunun Aşırı Kilolu Hastada Tedavisi: Olgu Sunumu

Morel-Lavallee lezyonu, acil serviste sık görülmeyen bir vakadır. Pelvik veya asetabular kırığın eşlik etmediği Morel-Lavallee lezyonu ise oldukça enderdir. Pelvik ve asetabular kırığın eşlik etmediği, obez bir hastada görülen yanlış teşhis edilmiş Morel-Lavallee lezyonu vaka örneği olarak sunulmuştur.

**Anahtar Kelimeler:** Morel-Lavallee lezyonu, obez, kırık olmayan.

#### Introduction

Significant soft tissue injury associated with a pelvic trauma in which subcutaneous tissue is torn away from underlying fascia, creating cavity filled with hematoma and liquefied fat is termed as closed degloving injury (1). Morel-Lavallee described this lesion for the first time in the 1800s. Subsequently, Letournel and Judet used the term of Morel-Lavallee Lesion (MLL) as closed degloving injuries over the region of the greater trochanter as associated with pelvic and acetabular fractures (2). However, MLL may occur in the thigh without any fracture in occasional instance. The presence of MLL initially may be missed in up to one third of cases and may be detected months or years after trauma (3). We report an obese patient with misdiagnosed MLL in the thigh without any concomitant pelvic or acetabular fracture.

#### Case Report

A 41-years-old obese male patient suffered pelvic and hip injuries in a motor vehicle crash and was taken to the emergency department of the local hospital. He had right hip and thigh tenderness without any ecchymosis initially. In his plain radiographs, there was no pelvic ring and acetabular fractures. He was diagnosed as simple soft tissue trauma and discharged from emergency department without any additional medical intervention. Two days after trauma, a fluctuating swelling appeared in his right thigh and percutaneous drainage with needle was done and compression therapy was applied in the outpatient department. Within two months after trauma, serial percutaneous drainages were done for five times and every aspiration made lesion larger. No medication was prescribed to him during this period.

He applied to our hospital after treatment of nonresponsive serial aspirations. His height was 167 cm and his weight was 102 kg. He was an obese patient with body mass index of 36.57 kg/m<sup>2</sup>. He had no medical history and was not diabetic. In his plain radiographs, there were no pelvic ring and acetabular fractures (Figure 1). A Morel-Lavallee lesion was noted in his right lateral thigh from gluteal region to middle of the thigh with large anteroposterior extension. Physical examination revealed fluctuant mass without an ecchymosis and laceration. Laboratory values were in normal range.

Under spinal anaesthesia and in supine position, surgical drainage was accomplished by making 3 cm incision over the posterior edge of the lesion. About 1200 mL fluid was drained and lesion was irrigated with 5000 mL saline solution. A suction drain was placed and elastic bandage was applied tightly. Treatment of routine antibiotic prophylaxis was given (intravenous cephazolin 1 g /8 hour). His intraoperative culture was reported positive with *E.Coli*. The suction drain was removed 2 weeks after surgery when the drainage was less than 50 ml in twenty-four

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#### Yazışma Adresi Correspondence

Deniz CANKAYA

Ankara Numune Eğitim ve  
Araştırma Hastanesi,  
Ortopedi ve Travmatoloji  
Kliniği  
Ankara, TÜRKİYE

cankayadeniz78@gmail.com

hours period. Antibiotic treatment was given additional two weeks after removal of drain. Patient had no complaint in his control four weeks after surgical treatment (Figure 2). Three months after surgery, patient was discharged from regular follow-up without any complain and complication.



**Figure 1.** Pelvis X-ray of the patient



**Figure 2.** Photograph of the healed lesion in four weeks follow-up. Three centimetres surgical incision is seen in the posterolateral aspect of the hip

## Discussion

Morel-Lavallee lesion is not a frequent lesion in orthopaedic trauma and there is no firm consensus on initial management and treatment methods in the literature [2]. Due to the fact that it is a not frequently seen lesion and bruising which is the most obvious sign generally takes several days to develop, many lesions may be easily missed on initial evaluation and

misdiagnosed as simple soft tissue trauma by the emergency doctor (4). Beside the infrequency of the Morel-Lavallee lesion, our case is interesting and important with its additional features leading to misdiagnosis of this lesion. First of all, it is an uncommon example of Morel-Lavallee lesions of thigh without any pelvic and acetabular fracture resulting from a high-energy trauma. Due to the traditional description of Morel-Lavallee lesion and its very low frequency, pelvic injuries without any concomitant fracture may lead to misdiagnose the Morel-Lavallee lesion. We want to draw attention to the importance of meticulous examination of patient in terms of Morel-Lavallee lesion and danger of ruling out the Morel-Lavallee lesion by only confirming the absence of fracture after pelvic injury. In suspicious cases, MRI is the reliable diagnostic imaging modality of choice in the evaluation of Morel-Lavallee lesions and correct preoperative MRI diagnosis of MLL can be useful for treatment algorithm (3).

Secondly, this case does not only show the difficulty in recognizing this lesion in obese patients when there is no concomitant fracture, but also shows us how obesity may change our treatment method in Morel-Lavallee lesion. Initial management and treatment of MLL are still debated. In our case, conservative treatment with serial aspiration was done in the local hospital and treatment choice caused enlargement of lesion. Although the study with five patients concluded that MLL could be treated conservatively (5), patients in this study were not obese and missed during their initial application to the emergency department. "Review article of the literature suggested that MLL was more amenable for conservative treatment when it was diagnosed earlier (6)."

As obese patients are more vulnerable to degloving injuries due to their longer course of subcutaneous tissue, conservative management may make Morel-Lavallee lesion worse in obese patients. The present case is suggested to avoid conservative treatment in obese patients. Regarding to the aggressive surgical approach, possible post-operative soft tissue problems must be mentioned especially in obese patients. Extension of the body mass index is directly related to increase in hospital lengths of stay and obese patients require longer period of treatment in case of multi-organ disorder (7). Due to the possible local and systemic disorders mentioned above, we suggested to avoid extensive surgical approach in the present case. We applied drainage from small incision in the posterior edge of the lesion and patient recovered without any additional problem after three months. We recommend applying drainage from small incision instead of conservative management or aggressive surgical approach for late diagnosed MLL in obese patients.

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