



## A RARE CASE OF MOREL LAVELLEES LESION

## General Surgery

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## ABSTRACT

**Introduction:** Morel-Lavallée lesions are post-traumatic, closed degloving injuries occurring deep to subcutaneous plane due to disruption of capillaries resulting in an effusion containing hemo-lymph and necrotic fat. It is an uncommon condition that results from a shearing force, causing a gloving injury which may get infected and lead to a life-threatening situation. **Case Presentation:** A 28 year old female patient presented to the emergency department with a history to Road traffic accident and sustained minor lacerations to the left lower limb and a contusion over the lateral aspect of the left thigh. The patient was found to have MLL upon ultrasound over the contused area, which was then incised and drained. The wound healed well over 3 weeks and split skin grafting was done which was successfully taken up. **Discussion:** MLL's are rare forms of closed degloving injuries which may be missed upon initial examination and mis-diagnosed as a contusion. If not treated promptly, it may lead to infection of the collected blood and overwhelming sepsis. **Conclusion:** It is important for clinicians to be aware of Morel Lavellee lesions as the diagnosis is more reliable on clinical examination and prompt diagnosis may prevent life-threatening complications in trauma patients.

## KEYWORDS

## INTRODUCTION:

Maurice Morel-Lavellee, a French Surgeon, first described the Morel-Lavellee lesion in 1863 as a closed degloving injury that occurs post-traumatically where the deep fascia gets separated from the skin and superficial fascia to create a potential space, causing disruption of capillaries resulting in an effusion containing haemo-lymph and necrotic fat.

The impact of devastating trauma leads to injury of lymphatics and blood vessels that lie in the vicinity, resulting in the accumulation of lymph and blood in this potential space. This results in a chronic inflammatory reaction, which later leads to the formation of a capsulated lesion lined by fibrous capsule and filled with necrotic fatty tissue, blood products, fibrin and debris.

It usually presents as a painful fluctuant swelling at the site of involvement. This lesion may be missed at the time of initial assessment and can present later, potentially leading to increasing difficulty in management and long-term morbidity.

These lesions are associated with significant morbidity and mortality. Over time, there is resorption of the haemorrhagic elements, increasing the serosanguinous fluid and progressive fibrous encapsulation which hinders resorption and leads to a slow continued expansion. The anatomic regions most likely to suffer from Morel-Lavellee injuries are the hip/greater trochanter, anterolateral thigh, gluteal, lumbodorsal, and scapular regions. They are usually found adjacent to osseous protuberances.

## CASE HISTORY:

A 28 year old female patient presented to the emergency department with a history to Road traffic accident (bike versus cattle) and sustained minor lacerations to the left lower limb and a contusion over the lateral aspect of the left thigh. There was no history of head injury or injury to thorax or abdomen. Upon initial examination, the patient there were 2 lacerations over the anterior aspect of the left leg, measuring 3 x 1 cms and 4 x 1 cms over the upper one-third and lower one-third of the leg. There was a contusion measuring 2 x 3 cms over the lateral aspect of the left thigh with discolouration of the overlying skin and tenderness over the contused area. There was no local rise of temperature over the contusion and movements over adjacent knee joint and hip joint were normal. Peripheral pulses were present and normal in character. The patient's vitals were stable and systemic examination yielded normal findings. The patient was being treated conservatively with anti-inflammatories, analgesics and antibiotics to prevent infection of the dirty lacerations over the leg along with primary suturing and aseptic dressing.

On day 2 of admission, the patient complained of increasing pain over the left thigh and on examination, the contused area had increased to attain a size of 10 x 6 cms over the lateral aspect of the left thigh with swelling and increased tenderness over the swelling. An ultrasound scan of the contused area revealed a 16 x 7.5 cms organised collection with internal septations and echoes at the lateral aspect of the left thigh in the subcutaneous plane. No active arterial bleed was noted. A clinical diagnosis of Morel-Lavellee lesion was thus made.

## DIFFERENTIAL DIAGNOSIS:

The differential diagnoses included a superficial hematoma and intramuscular hematoma. The diagnosis of Morel-Lavellee lesion was confirmed after fluctuation was confirmed at a deeper level than a superficial hematoma and prominence of the swelling upon contraction of underlying muscles was noted.

## SURGICAL MANAGEMENT:

After taking prior, informed consent, the patient was then taken up for surgical management, i.e. Incision and drainage of the collected fluid. A complete, closed degloving injury was noted wherein, the skin and subcutaneous layer was separated from the underlying deep fascia by a collection of blood, amounting to approximately 1 litre. Necrosed fat was noted in the subcutaneous plane. A corrugated drainage sheet was placed at the lower end of the incision to prevent further collection of blood and reactionary fluid and the wound was sutured using non-absorbable sutures.

On post operative day 2, it was noted that the area of blackened necrosed skin had increased to 3 cm anterior and 1 cm posterior to the suture line. Under local anaesthesia, the necrosed skin had been excised, wound left open to heal by secondary intention and fluid collection from the space was sent for culture and sensitivity. The culture report revealed E.coli and Methicillin Resistant Staphylococcus aureus which was treated accordingly with appropriate antibiotics and regular aseptic dressing. The wound was then treated using Negative pressure wound therapy to hasten the healing process and development of healthy granulation tissue for 2 weeks.

After the wound was covered with healthy granulation tissue and the repeat swab from the wound was negative for any organism growth, the patient was then taken up for Split skin grafting which healed well. The patient was then followed up after discharge in the out-patient department for a duration of 6 months post operatively. No delayed post operative complications were found.

## DISCUSSION:

This case was clinically significant for being commonly misdiagnosed

as a contusion or a resolving hematoma. Morel-Lavellee lesions are notorious in the aspect of having a delayed presentation after initial inciting traumatic event. Thus, prompt diagnosis by ultrasound or MRI is warranted to prevent further increase in size of the lesion and thus, morbidity related to injuries. As this lesion relies on clinical diagnosis and ultrasonography, it is essential that all closed soft tissue injuries undergo adequate radiological investigations to rule out MLL's upon initial presentation of the patient.

Secondly, an open debridement or incision and drainage may be a better modality of surgical treatment in these cases as closure of the wound after initial drainage may lead to recurrence of collection of blood or fluid ooze which may require a second drainage or debridement procedure and increases the risk of wound infection despite antibiotic coverage.

**Day 2 of Admission:**



**Post operative Day-1:**



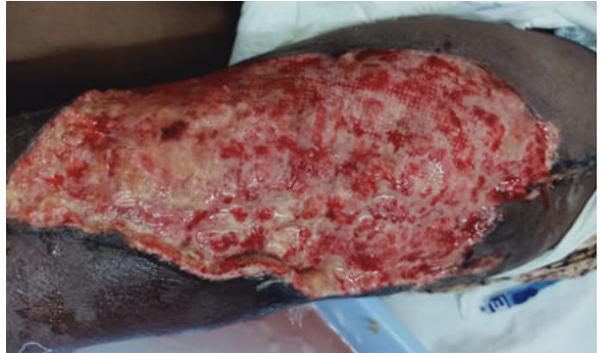
Post operative Day 2- after excision of necroses skin and sub cutaneous tissue:



**Post operative Day 5:**



**Post operative Day 8:**



**Post operative Day 12- Negative Pressure wound dressing:**



**Post operative Day 18:**



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