

Closed Degloving Injury of the Thigh

The Editor

Sir,

Closed internal degloving injury is a significant soft-tissue injury in which the subcutaneous tissue is torn away from the underlying fascia creating a potential space that can be filled with serous fluid, haematoma and liquefied fat (1, 2). Unlike open degloving injuries, these injuries are uncommon and may be missed or dismissed as minor and inconsequential. This case is being reported to draw attention to an uncommon injury that if unrecognized may result in an unfavourable outcome.

A 26-year old man presented to the Emergency Department at the University Hospital of the West Indies, Kingston, Jamaica, complaining of a two-week history of a boggy swelling over the entire lateral aspect of his left thigh. He was involved in a motor vehicle accident which was a broad-side collision. Five days later, he noticed a fluctuant swelling on the lateral aspect of his left thigh. Significant findings revealed a visible fluid collection on the proximal lateral



Fig. 1: Fluctuant swelling in the left lateral thigh of the patient.

aspect of the left thigh (Fig. 1). The fluid appeared to be a free flowing, low viscosity collection with no evidence of erythema or ecchymoses on the external skin. The swelling was fluctuant and moved under the influence of gravity (Fig. 2). Radiological examination revealed no bony injury or air in the soft tissues.



Fig. 2: Fluid accumulating in the proximal thigh of the patient under the influence of gravity.

Based on the clinical findings along with the background of the mechanism of injury, a clinical diagnosis of a closed degloving injury of the thigh was made. Ultrasound revealed an extensive collection between the skin and fascia extending from the level just below the greater trochanter at the inferolateral portions of the left gluteus maximus muscle extending as far inferiorly as the lateral aspect of the knee joint. The patient underwent ultrasound guided aspiration of the fluid collection under local anaesthesia with a 16 G brunnula where 360 cc of straw coloured slightly blood-tinged serous fluid was removed. An elastic pressure bandage was then wrapped around the entire thigh. The patient tolerated the procedure well and was discharged home the same day. He remained well thereafter with no re-accumulation of fluid.

Closed (skin surface intact) degloving injuries are easily overlooked and may be a source of morbidity if not diagnosed early and treated correctly. The skin normally receives its blood supply from the underlying fascia. After separation from the fascia, the skin is dependent on perfusion through the dermal and subcutaneous vascular plexus (3). Avulsion of skin and subcutaneous tissue by a shearing force along the fascial plane interrupts the perforating vessels, leaving areas of the skin dependent on a tenuous peripheral blood supply (4). Diagnosis can be confirmed with both ultrasound and CT scan imagery (5). An expanding haematoma in these injuries can compromise the skin vascularity if

not promptly drained. Various methods or combinations of techniques of treatment have been suggested. These include application of compression, fluid aspiration, liposuction, injection of sclerosing agents as well as open surgical debridement.

*From: EW Williams, V Chand, P Singh, R Turner,
J Williams-Johnson, I Edwards, M Ellis*

*Emergency Medicine Division, Department of Surgery,
Radiology, Anaesthesia and Intensive Care. The University
Hospital of the West Indies, Kingston 7, Jamaica, West
Indies.*

*Correspondence: Dr EW Williams, Emergency Medicine Di-
vision, Department of Surgery, Radiology, Anaesthesia and
Intensive Care. The University Hospital of the West Indies,
Kingston 7, Jamaica, West Indies. E-mail: verz3us@yahoo.
com*

REFERENCES

1. Hudson DA, Knottenbelt J, Krige J. Closed degloving injuries: Results following conservative surgery. *Plast Reconstr Surg* 1992; **89**: 853.
2. Letournel E, Judet R. Fractures of the acetabulum 2nd ed Berlin, Germany: Springer-Verlag; 1993:87
3. Cormack GC, Lamberty BGH. The blood supply of the thigh skin. *Plast Reconstr Surg*. 1985; **75**: 342–54.
4. Hudson D. Missed closed degloving injuries: Late presentation as a contour deformity. *Plast Reconstr Surg* 1996; **98**: 334–7.
5. Shlamovitz GZ, Kulkarni R. eMedicine Image Case 72. http://master.emedicine.com/email/image72/image72_answer.html (searched November 2006).