Assessment of severe lower limb trauma with the aid of on-site photography

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DESCRIPTION

A 44-year-old man was brought to the hospital by ambulance with a severely deformed right femur following a motorbike accident. The initial deformity was reduced on-site, but the ambulance crew provided a pre-reduction photograph (figure 1). The patient was travelling at 100 kmph when he collided with a wall. Evaluation on-site, and primary and secondary surveys, revealed that the patient was stable (as per Advanced Trauma Life Support (ATLS) protocol) and his injured limb was neurovascularly intact.

Owing to the severity of his initial deformity, a CT angiogram was performed. Examination and imaging revealed a compound, comminuted right femoral fracture involving the distal third of the femoral shaft and femoral condyles with associated fracture of the patella (figures 2 and 3). However, there was no evidence of arterial injury. No other injuries were identified.

Figure 1 On-site photograph of the injured lower limb.

Emergency open reduction and internal fixation was performed using headless compression screws and a lateral locking plate (figure 4). Postoperatively, the patient was placed in a range of motion brace

Figure 2 Plain anteroposterior radiograph of the distal femur.

Figure 3 CT slice of the distal femur showing the extent of the injury.

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Figure 4 Plain anteroposterior radiograph of the fracture post open reduction internal fixation with accompanying range of motion brace.

locked in extension, and was non-weightbearing for 6 weeks. He was discharged from hospital 5 days postoperatively without complication.

High-energy blunt trauma to the lower extremity is associated with a 28–46% rate of injury to the popliteal artery.[1] Delay in diagnosis and failure to revascularise within the first 6–8 h lead to high rates of limb amputations.[2] We present this as an interesting case of severe limb injury, with on-site photography used to guide emergency teams in assessment, management and consideration of concomitant injury.

Learning points

- Importance of the first responder handover and the potential aid photographic adjuncts offer when conveying vital information in handover to emergency staff.
- Importance of neurovascular assessment of patients with trauma.
- Importance of radiological adjunct imaging in trauma settings.

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