A case of impalement injury of finger

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DESCRIPTION
A 90-year-old man, with Parkinson’s disease, presented to the emergency department with a penetrating finger injury that was caught in the door-handle after a fall. He couldn’t recall the detailed mechanism of fall, but he lost his balance and fell backwards while holding the door-handle with his right dominant hand. The handle had passed through and through the palmar aspect of the proximal phalanx from medial to lateral aspect in his right middle finger (figure 1). The paramedics had unscrewed and taken off the door handle from the door which was still attached to the finger. On examination, he was able to move his middle finger and had no distal neurovascular deficit. The capillary refill time was less than 2 s and there was minimal bleeding from the wound. There was no fracture in the hand radiograph. After a preliminary assessment, the impaled object was removed successfully under a digital nerve block using an aseptic technique in the emergency department and the wound was then handled with normal saline under pressure. His tetanus vaccination was updated and a prophylactic antibiotic of co-amoxiclav 625 mg was administered. The wound was then reviewed after 48 hours and a delayed primary closure was performed. The patient had regained good hand function after physiotherapy and the wound healed unremarkably at the follow-up.

Penetrating hand injuries due to doors and door-related injuries have been infrequently reported. To our knowledge, an unusual penetrating finger injury with a door-handle has not previously been reported in the literature. First of all, the principles of prehospital management of penetrating finger injuries are controlling the active haemorrhage, minimal manipulation of the impaled object, immobilisation by splinting, collection of the vital signs and administration of adequate analgesia that are essential steps before the transfer. 2 Removal of impaled foreign body from extremities in the field environment is relatively unsafe to do so due to the risk of additional trauma like a neurovascular injury. It can also cause uncontrolled bleeding in the field especially in the patient who is taking an anticoagulant. Second, an emergency clinician should rapidly intervene in the removal of an impaled object safely to reduce of risk of infection. Minimal tissue damage leaves all neurovascular structures intact. Lidocaine with or without epinephrine has been used for digital nerve block in treating penetrating finger injuries. Although it has been suggested that wound debridement, wash out and exploration should be performed for impaled objects under adequate anaesthesia in the theatre, our patient was treated conservatively with a good outcome. Third, environmental hazards, balance and gait impairments are multifactorial risk factors for fall and sustaining a penetrating injury in the elderly population. Pointed door handles have been suggested that wound debridement, wash out and exploration should be performed for impaled objects under adequate anaesthesia in the theatre, 1 4 our patient was treated conservatively with a good outcome. Additional factors for fall and sustaining a penetrating injury in the elderly population. Pointed door handles have been reported to impose penetrating injuries among children and elderly people. 1 It is important to replace all sharp edges with specially designed soft grips to reduce the injury. Good lighting will keep the elderly ones safe.

Learning points

- Controlling the active haemorrhage, minimal manipulation of the impaled object, immobilisation by splinting, collection of the vital signs and administration of adequate analgesia are the essence of prehospital management for penetrating hand injuries.
- Emergency clinician can perform timely removal of an impaled object from extremity using adequate regional nerve block without any sequels due to the minimal tissue damage leaving all neurovascular structures being intact.
- Multiple factorial risk factors contribute to elderly fall that can sustain the horrible door-handle penetrating finger injury.
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