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Clinical Image

Penetrating axillary trauma resulting from garden fence impalement

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Abstract

This case of pediatric penetrating injury emphasizes that foreign bodies embedded in the body should not be removed by non-specialists outside a controlled clinical setting, in order to prevent complications.

Keywords: Pediatric trauma, penetrating injury, axillary region, garden fence

Description

Pediatric trauma is generally blunt in nature and most commonly results from same-level falls. Penetrating injuries constitute approximately 10–20% of all pediatric trauma admissions [1]. Injuries occurring in parks are more frequently observed in male children, particularly between the ages of 5 and 9 years, and are more common during seasons with increased outdoor activity, affecting hundreds of thousands of children annually. A positive correlation has been demonstrated between ambient temperature and emergency department admissions, with a decrease in trauma-related presentations during rainy weather [2].

The majority of pediatric injuries involve soft tissue lacerations or contusions, followed by extremity fractures. The most common fractures occur in the upper extremity, including distal radius, supracondylar humerus, and clavicle fractures [1, 2].

While upper extremity traumas in children mostly present as closed fractures or superficial lacerations, complex impalement injuries of the axilla remain exceedingly rare. The axillary region houses critical neurovascular structures, including the brachial plexus and axillary vessels. Consequently, managing these cases requires a well-coordinated multidisciplinary approach, beginning with proper field stabilization and culminating in controlled surgical extraction.

Figure 1. Penetration of an iron garden fence into the patient's axilla and its appearance upon admission to the emergency department, after being cut without removal of the impaled object.

Case Presentation

An 8-year-old female pediatric patient was admitted to the emergency department with a penetrating injury to the right upper extremity (Figure 1). At the

time of admission, a segment of the garden fence had been stabilized by the family and paramedic team and remained in situ. On inspection, no active bleeding was observed. The fence segment was noted to have entered the arm from the medial aspect near the axilla, penetrating through the mid-arm region, with no exit wound identified. Physical examination revealed significant soft tissue injury with deep axillary involvement. However, no neurological or vascular deficits were detected, and distal pulses were palpable. Intravenous broad-spectrum antibiotics and tetanus prophylaxis were administered. The foreign body was stabilized and subsequently removed under general anesthesia in the operating room. Surgical exploration of the wound demonstrated deep axillary injury; fortunately, no major neurovascular structures, including the axillary artery or brachial plexus, were found to be injured.

Learning points

- Penetrating injuries constitute approximately 10–20% of all pediatric trauma cases.
- Penetrating trauma involving or adjacent to neurovascular structures requires special attention due to the risk of severe complications.
- Foreign bodies penetrating the body should not be removed outside the operating room, as premature removal may result in irreversible neurological injury or life-threatening hemorrhage.

Author contributions

The author contributed to the study conception and design. Material preparation, data collection, and analysis were performed by KS. The first draft of the manuscript was written by KS, and the author reviewed and approved the final version of the manuscript.

Statements and declarations

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Conflicts of interest
The author declares no conflict of interest.

Ethical statement

The author confirms that this case report was conducted in accordance with the ethical standards outlined in the 1964 Declaration of Helsinki and its later amendments. Written informed consent was obtained from the patient's legal guardian for publication of this case and the accompanying image.

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