

Penetrating Tracheal Injury in a Child from a Rooster Bite: A Rare and Unprecedented Case Report

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Penetrating tracheal injuries in the pediatric population are uncommon and are most frequently associated with high-energy trauma or animal attacks, such as dog bites. However, avian-related penetrating injuries are exceedingly rare, with no documented cases of tracheal injury caused by rooster bites found in the literature. This report presents a rare case of a 3-year-old child who sustained a tracheal perforation secondary to a rooster bite to the neck. The clinical presentation, diagnostic challenges, surgical intervention, and successful outcome are discussed. This case highlights the importance of early recognition and prompt management of rare penetrating neck injuries in children.

Keywords: Penetrating tracheal injuries, Rooster Bite, tracheal injuries

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Introduction

Penetrating tracheal injuries in the pediatric population are uncommon and are most frequently associated with high-energy trauma or animal attacks, such as dog bites [1]. Penetrating neck injuries (PNIs) in children are relatively uncommon and pose unique diagnostic and management challenges due to anatomical differences and communication barriers in pediatric patients [2]. While animal bites are a known cause of traumatic injuries in children, most literature focuses on dog or cat bites¹. Avian bites, particularly those from roosters, are rarely reported and have not been associated with significant airway trauma until now.

The airway is particularly vulnerable in children due to their proportionally shorter necks, more compliant tracheal structures, and thinner skin and soft tissues [3]. In such cases, even a seemingly superficial external wound may mask deeper life-threatening injuries.

This report documents, to our knowledge, the first case of a penetrating tracheal injury in a child resulting from a rooster bite and explores the clinical approach and successful management strategy employed.

Case Report

A previously healthy 3-year-old girl presented to the emergency department following a reported rooster attack at her family's farm. She was bitten on the left side of her neck while playing outdoors. Initially, the child was alert and stable, with a superficial-appearing puncture wound on her neck. However, within a few hours, she developed progressive neck swelling, facial and upper chest subcutaneous emphysema, and increasing respiratory distress.

Clinical findings included:

- Subcutaneous crepitus extending to the chest and abdomen, neck and face
- Mild stridor and tachypnea
- Oxygen saturation of 90% on room air
- No external bleeding or pulsatile hematoma

Investigations:

- Chest X-ray showed widespread subcutaneous emphysema.

- CT scan of the neck revealed a tract extending from the skin wound to the trachea.
- Rigid Bronchoscopy did not yield any extra information.

Given the anatomical location and the child's worsening symptoms, surgical intervention was deemed necessary.

Surgical Management:

The child underwent surgical exploration under general anesthesia. Intraoperatively, the tracheal defect 5mm between the tracheal ring 3rd and 4th was identified and closed primarily with 7-0 Prolene interrupted sutures. A drain was placed in the subcutaneous tissue to prevent the accumulation of air and fluids. The child was successfully extubated postoperatively and monitored in the pediatric ICU.

Outcome and Follow-up:

The child showed rapid clinical improvement. The subcutaneous emphysema resolved over 48 hours, and no further respiratory support was required. She was discharged on postoperative day 3. At a 2-month follow-up, she remained asymptomatic with no respiratory compromise or scar-related complications.

Discussion

This case is unique due to the rare mechanism of injury—a penetrating tracheal wound inflicted by a rooster's beak. Roosters are known to exhibit aggressive behavior, particularly during the breeding season or when threatened [5], and their sharp beaks can act as penetrating weapons.

Key learning points include:

- Pediatric tracheal injuries can present with subtle signs initially, despite significant internal damage [6].
- Imaging and bronchoscopy are critical tools in evaluating the extent of suspected tracheobronchial injury [7].
- Prompt surgical intervention, particularly in anterior tracheal wall injuries, can result in excellent outcomes with minimal long-term sequelae [4].

A literature review yielded no previous reports of tracheal injuries caused by avian bites, reinforcing the uniqueness of this case.

Conclusion

Penetrating tracheal injuries from rooster bites are exceedingly rare and, to our knowledge, have not been previously reported. This case underscores the importance of maintaining a high index of suspicion for airway trauma in pediatric patients with animal-related neck injuries, regardless of the perceived severity. Early diagnosis and timely surgical management are critical to prevent life-threatening complications and ensure a favorable prognosis.



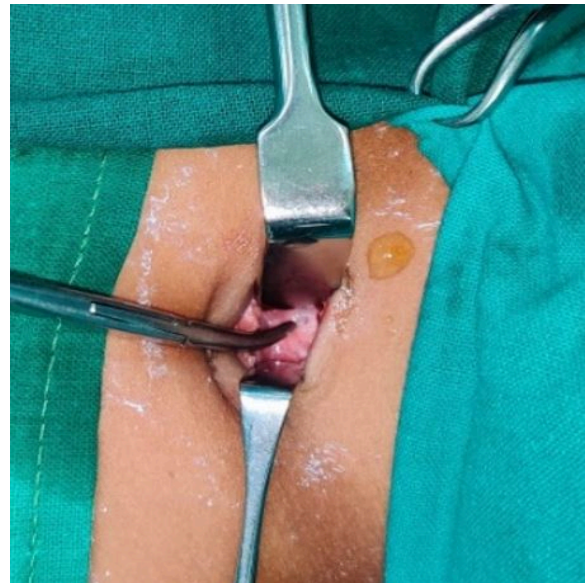
Pic 1: Presentation of the child in EMR



Pic 2: X ray- chest & abd with surgical empysema and pneumomediastinum



Pic 3: Injury site over the neck



Pic 4: intra op picture of the tracheal rent



Pic 5: At the time of discharge

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