RETAINED FOREIGN BODY IN THE RIGHT SUPRACLAVICULAR FOSSA FOLLOWING AN ALLEGED FALL AND ITS CHALLENGES ON DIAGNOSING AND RETRIEVAL: A CASE REPORT

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Figure 1
Plain radiographs of the chest and right clavicle with no hemopneumothorax

Figure 2
CT thorax showing linear air attenuation that is similar to air pockets

Figure 3
Intraoperative photograph showing foreign body retrieved from right supraclavicular fossa.

Introduction

Although foreign bodies commonly contaminate traumatic wounds, it is often missed during initial physical examination. This is especially true in cases of embedment of foreign bodies into deeper tissues with detection occurring only accidentally through radiographic evidence or patients presenting with varied complications such as pain and infection at a later stage. We describe a case of a broom cap retained in the right supraclavicular fossa, its challenges on identifying on diagnostic imaging and surgical retrieval of the item.

Case description

A 21 year-old gentleman presented with a chief complaint of pain over the wound at the right axilla. Earlier that day, he had allegedly fallen onto a broomstick while cleaning the toilet. He had initially sought medical attention from a general practitioner in a clinic nearby where a chest radiograph was done. The imaging shows subcutaneous emphysema of the right chest with no hemopneumothorax observed. The wound at the right axilla was sutured. He came to our hospital for persistent pain over the right shoulder the same day. On examination, there was a firm swelling at the right supraclavicular fossa measuring 3 x 3 cm with mild tenderness on palpation. The overlying skin appeared stretched but no skin discoloration and no discharge seen from the sutured wound at the right axilla. Ultrasound of the right supraclavicular fossa showed presence of a solid lesion however unable to differentiate from bony structures. Computed tomography (CT) Thorax did not show tracheobronchial injury but a well-defined linear air attenuation anterior to the right clavicle measuring 4.0cm in length and 2.0 cm in width and is similar in attenuation to surrounding air pockets.. He was subjected to a surgical exploration under general anesthesia for suspected retained foreign body, three days post trauma. A transverse incision made over the swelling and the exploration confirmed the findings (a plastic broom cap) with localized pus contamination and a notable track to the wound at his right axilla, likely migratory foreign body through this track along the plane of pectoralis muscle.

The foreign body was removed in one piece and the wound was cleaned up and a corrugated drain was then placed. His shoulder pain disappeared immediately after retrieval of the foreign body. He was discharged with an antibiotic course, daily wound dressing, followed by secondary suturing 2 weeks later.

Discussion

Retained foreign bodies following a penetrating trauma may pose a difficult diagnostic problem especially non-radiograph opaque objects. Plain radiograph is suitable for initial screening on patients with suggestive clinical history of suspected foreign bodies however is often unrewarding as organic foreign bodies may mimic air pockets or remain isodense to surrounding soft tissues [1]. Thus other imaging modalities must be considered to detect radiolucent foreign bodies.

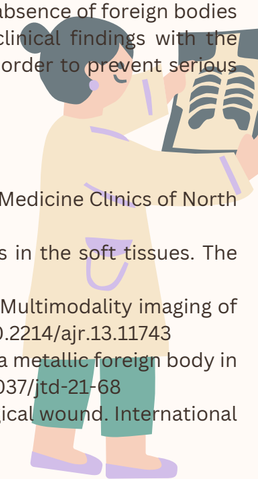
Several other imaging modalities have been advocated to identify foreign bodies. Ultrasonography enables fast detection of non-radiopaque in emergency settings and has the advantage in allowing ultrasound-guided removal of the foreign body [2]. However, like any other skill, it is operator dependent. The challenge of delineating the possible etiology is raised as scanning can be difficult in certain areas, as evidenced in this case, as it is obscured by bony prominences.

Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) are beneficial in determining the relationship of the object to nearby structures [3]. The right subclavian artery and vein are posteroinferior in relation to the object which is important in planning for surgical approach on retrieval. There was a delay in surgical exploration which was taken three days after the trauma due to a diagnostic dilemma. The CT Thorax done in this case initially reported a possibility of hematoma which interspersed between soft tissues at the region where as clinically the swelling was firm with tensed overlying skin, mild tender, and without skin changes which suggest a retained foreign body. There were discussions between clinicians and radiologists in order to correlate the clinical findings with the CT thorax and ultrasound which raised suspicion of wooden or plastic foreign bodies. This shows that clinical judgment is crucial to guide the diagnosis on the imaging.

Another significant challenge faced in this case is in relation to the surgical removal of the foreign body. A clinician must weigh the potential harm of the foreign body in its current location against the risks of attempting removal and consider not to prolong the surgical time to retrieve as this increases morbidity and costs for patients [4] . A likely migratory foreign body indicates the necessity to explore the entirety of track for other retained objects . Class IV wound carries the highest risk of infections of more than 30% and has proven to benefit from the readily available open passive drainage such as corrugated drains combined with antibiotic solution irrigation, in reducing the risk of surgical site infections (SSI) , and reducing length of hospital stay [5].

Conclusion

The goal of this case report was to raise awareness on the challenges associated with diagnosing foreign bodies embedment. While these cases are common , approximately one-third of cases are initially missed at presentation and go unnoticed until a later stage when the patient revisits with complaints related to the associated area. Overall, radiography is beneficial as a screening in suspected foreign bodies embedment however, a negative finding on plain radiography does not prove the absence of foreign bodies and should prompt further diagnostic evaluations. This case illustrates the importance of correlating clinical findings with the different modality imaging in detecting foreign bodies and its effect on decisions for surgical retrieval in order to prevent serious complications to patients such as infection.



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