Retained Broken Knife Following Chest Wall Stab Injury: A Case Report and Literature Review

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Abstract

Background: Penetrating injuries following assault has been reported from several parts of the globe, and rising incidence in knife crime per year has been described in the United Kingdom accounting for 12% of major trauma calls. The study reported the unusual presentation of extruding retained broken knife following a knife stab injury.

Methods: A descriptive study (case report) was carried out using information from the patient's case notes.

Case Presentation: A 21-year-old male had a knife stab injury at the left lower back 5 weeks earlier following a fight with his "friend", and presented with extruding metal object from the left side of the chest wall. The systems examination essentially revealed the presence of healed scar (entry wound) located at the posterior left lower thoracic region; a foreign object (broken knife) protruding from the left lower lateral side of the chest wall (exit wound); there was scanty yellowish discharge at the exit site associated tenderness, induration extending from entry to exit sites. Examination of the chest and abdomen revealed normal findings. The chest radiograph showed presence of metallic object in the soft tissue beneath the skin. Diagnosis made was foreign body extrusion secondary to knife stab injury, and patient subsequently had wound exploration and foreign body removal.

Conclusion: There was failure of conflict resolution among two friends, and a missed diagnosis of retained foreign body in the subcutaneous tissue of this patient. Introduction of conflict resolution modules in our schools and trauma update courses among our young practicing physicians may improve the quality of care of patients with chest trauma.

Keywords: Case report, Chest wall, Extrusion, Retained broken knife, Stab injury, Port Harcourt, Nigeria.

Introduction

Penetrating injuries following assault has been reported from several parts of the globe (Bieler et al., 2021; Giummarra et al., 2021; Harms & Bush, 2022; Holmberg et al., 2024; Malik et al., 2020; Solomin, 1963; Whittaker et al., 2017; Williams et al., 2006), and rising incidence in

knife crime per year has been described in the United Kingdom accounting for 12% of major trauma calls (Ajayi et al., 2021). Similar rise has been observed in other parts of the world (Holmberg et al., 2024; Philémon & Kakusu, 2025). Some of these injuries are surprisingly self-inflicted (Bukur et al., 2011; Izawa et al., 2016; James et al., 2006; Kaloo et al., 2000; Stephen et al., 2018; Su & Changchien, 2016). The annual cost of care for cut/stab wounds in the united States was amounted to U.S.\$51 billion as reported in year 1997 (Miller & Cohen, 1997). In Iceland, a nation-wide study revealed that most of the cases of stab injuries were from assault, which occurred at home/public places and chest involvement was topmost (Johannesdottir et al., 2019). Similar findings were observed in other studies carried out in Denmark (Thomsen et al., 2020), and Sweden (Boström, 2000). All these findings underscore the importance and public health impact of penetrating injuries across the globe.

A report on the burden of hand injuries in Sub-Saharan Africa published in year 2015, highlighted that knife injuries constituted 10% of all the cases (Makobore et al., 2015). More recently, a 15 year experience of penetrating neck injury with retained knife was also reported from South Africa, with a recommendation that formal operating theatre neck exploration should be done for anterior neck injuries and not necessarily for posterior injuries (Kong et al., 2022). There are many other reports on knife injuries in Africa (Dolińska-Kaczmarek et al., 2025; Enicker et al., 2015; Leslie et al., 2025; Lockyer et al., 2013; Musowoya et al.). In the etiology of penetrating chest injury in Nigeria reported in 2005, stab injury was the second commonest after gunshot (Thomas & Ogunleye, 2005). There are also similar documentations on chest injuries in Nigeria (Ali & Gali, 2004; Ekpe et al., 2018; Nwafor et al., 2014; Ogbudu et al., 2023), and in a report from South-Western Nigeria, two factors - age above 40 years and presence of pulmonary contusions were regarded as determinants of mortality in chest trauma patients (Onakpoya et al., 2010). A case series on penetrating knife injuries to the spine concluded that neurologic impairment were rare and early removal of impaling object was recommended (Shobode, 2021). In Sokoto Nigeria, a rare craniofacial knife injury was also reported with complete loss of sensation to the right side of the tongue and lower lip (Bala et al.). Even among children, a researcher chronicled his experience in chest trauma from two teaching hospitals in Southern Nigeria, and stab injuries comprised 12.9% of the cases (Okonta, 2015).

About twenty-three years ago, fifty cases of stab injuries were seen in a single hospital over a year in Port Harcourt (Adotey & Jebbin, 2002). In that report, the age group commonly involved was between 21-30 years and males dominated in the ratio of 5.25:1, and the most common weapon used was broken bottle followed by knife. However, another study from Benin Nigeria reported the third decade as the most age range and conflict/fight as the most common reason for the stab injuries (Nwashilli & Obi, 2021). In the same city twelve years later, a chronicle of 254 medicolegal autopsies resulting from penetrating weapons found the commonest site of injury to be the chest (Seleye-Fubara & Etebu, 2012). Port Harcourt has therefore been known for this form of injuries, however, what is different in our report is the unusual manner and pattern of this presentation hence the report. There are few reported cases of retained broken knife after injuries. This study reported the unusual presentation of broken knife retention following a knife stab injury as seen at the Rivers State University Teaching Hospital in Port Harcourt in year 2025.

Case Presentation

Clinical History: A 21-year-old male had a knife stab injury at the left lower back 5 weeks earlier, and presented with extruding metal object from the left side of the chest wall, following a fight with his "friend". He was attended to at a peripheral clinic where wound was sutured.

He resumed his usual activities with slight pains on that region until extrusion of the metallic remnant. There was no associated dyspnea, no abdominal swelling, no hemoptysis.

Clinical Examination Findings: There were no significant abnormal findings on general examination. The vital signs were normal (pulse rate of 60/minute, respiratory rate = 16/minute, temperature = 36.7° C, and blood pressure = 100/70 mmHg, SpO2 = 99%). The systems examination essentially revealed the presence of healed scar (entry wound) located at the posterior left lower thoracic region; a metallic object having a pointed tip, a straight edge, and a curved edge measuring 6cm x 3cm from the skin edge (broken knife) protruding from the left lower lateral side of the chest wall (exit wound); there was scanty yellowish discharge at the exit site associated tenderness, inducation extending from entry to exit sites. Examination of the chest and abdomen revealed normal findings.

Investigations: He had done a chest radiograph which showed presence of metallic object in the subcutaneous tissue. Other investigations did not show significant findings.

Diagnosis: A diagnosis of retained foreign body secondary to knife stab injury was made.

Treatment: He was placed on antibiotics and analgesics. The patient received tetanus toxoid, and subsequently had wound exploration and foreign body removal. He had daily wound dressing until it healed by secondary intention.

Follow Up: Review at the out-patient clinic revealed satisfactory findings.



Figure 1: Showing anterior view of the patient at presentation.

Figure 1 shows the anterior view of the patient with a metallic object protruding from the left side of the patient.



Figure 2: Showing lateral view of the patient at presentation.

Figure 2 shows the lateral view of the patient with the pointed end of a knife protruding from the left lower thoracic region.



Figure 3: Showing posterior view of the patient at presentation

Figure 3 shows the posterior view with the sutured/healed entry wound scar, and the sharp edge of the knife projecting downwards and anteriorly.



Figure 4: Chest radiograph of the patient with knife showing in the subcutaneous tissue

Figure 4 shows the patient's posterior-anterior chest radiograph with knife showing as opacity in the subcutaneous tissue. The costophrenic angles where free implying absence of collection in the pleural cavity.



Figure 5: Showing the extracted knife fragment and the exit wound

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Figure 5 shows the extracted knife fragment and the exit wound through which exploration was done.

Discussion

The struggle for resources –materials, manpower, or money – has a tendency to lead to conflicts following differences in perceptions, views, actions and reactions among humans and animals. The ability to remain sane in an environment of perceived hurt and resolve conflict without going physical is an acquired attribute that distinguishes humans from lower animals and the civilized from the uncultured. Failure in conflict resolutions manifest as fights, stab injuries, gunshots, wars, and deaths. Similar thoughts have been shared by other authors in other researches (Bazezew & Neka, 2017; Endicott, 2024; Folger et al., 2021; Ikezue & Ezeah, 2017; Nepal & Weber, 1995). The unresolved conflict among two "friends" led to the knife stab injury which was earlier sutured. Although the patient had slight pains on that region, he was not aware of the presence of the foreign body until extrusion of the metallic remnant. The implication of this is that the attending doctor at a peripheral (private) clinic where the wound was sutured was not also aware of the presence of the metallic broken piece at the site of injury. The likely reason for this could be that the wound was not probed or explored before suturing.

The description of the metallic protruding object suggest that it was the tip of the offending object that was extruding after the entry wound had healed scar. These findings raised concern about the quality of care of trauma patients in the hands of first handlers in the tiers of healthcare. Similar concern has been expressed regarding trauma care in Africa (Alayande et al., 2022), and particularly in Nigeria where the researchers advocated for policy reforms, improved resource distribution, and enhanced training (Akinlade et al., 2024). The patient however, presented to the tertiary healthcare facility 5 weeks after the incident with fragment of the offending object in situ and protruding suggest that there was some degree of sepsis. This is supported by the presence of scanty yellowish discharge at the exit site, associated tenderness, and induration extending from entry to exit sites. Infection in this patient was expected following indwelling foreign body for duration of five week of the trauma.

Treatment of penetrating chest injury vary with the manner of presentation, offending object, depth of penetration, and the injured organ (Al-Anbari & Al-Hindy, 2024; Ekanayake et al.; Kibu et al., 2025; Werner et al., 2025). This patient had antibiotics, analgesics, tetanus toxoid, wound exploration, foreign body removal, and subsequent daily dressing, and the outcome was favorable. The reason for this option of care was because there was no intrathoracic involvement. This reasoning is supported by the vital signs which were stable; examination of the chest and abdomen which revealed normal findings; chest radiograph and wound exploration which found the pathology involving only the subcutaneous tissue.

Conclusion

The stab injury resulted from failure of conflict resolution among two "friends". The diagnosis of retained foreign body in the subcutaneous tissue of this patient was missed by the attending physician leading to late presentation with retained knife extrusion.

Recommendations: The introduction of conflict resolution modules as teaching sessions in our schools could have the potential of reducing tendencies for violence among our youth. Trauma care update courses among our young practicing physicians may improve the quality of care of patients with chest trauma.

Other Information

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