CASE REPORT

Retained foreign body after chest stab wound

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SUMMARY

Foreign bodies may occur after a thoracic trauma, but foreign bodies retained after stab wounds are rare. This paper reports the case of a 20-year-old man who was admitted with the diagnosis of haemothorax following a single stab wound on the chest. One month later, he was referred to the authors' clinic with symptoms of pain and swelling under the left scapula due to a previously overlooked foreign body on the chest wall.

BACKGROUND

Thoracic traumas constitute an important part of the patients who are being admitted to the emergency units and deaths due to trauma.¹ The most common intrathoracic pathologies occurring during thorax trauma and potentially life-threatening when not treated appropriately are pneumothorax, haemothorax and haemopneumothorax.² Foreign bodies may occur after thoracic trauma, but retained foreign bodies after chest stab wounds are rare.

In this case report, a patient who was admitted with the diagnosis of haemothorax following a stab wound on the chest 1 month previously was referred to two different clinics with symptoms of pain and swelling under the left scapula due to an overlooked foreign body on the chest wall.

CASE PRESENTATION

A 20-year-old man was referred to the authors' clinic with symptoms of pain and swelling in the left side of his back over a month. He was admitted, 1 month before, with the diagnosis of left haemothorax from a single stab chest injury. He was discharged following treatment of the haemothorax by means of a chest tube. Doctors did not notice a piece of the knife on the chest wall. The patient stated that he had been referred to two different health institutions that administered antibiotic treatments, with the doctors saying that the swelling was due to an infection at the entrance site of the knife. On physical examination, focal heat increase and local tenderness to gentle chest-wall palpation indicated a hard object present on the posterior thorax wall at a location corresponding to the sixth intercostal space (figure 1). Examination of the respiratory system was normal. Whole blood analysis and biochemical evaluations showed no pathology except for a white cell count of 12 000. A chest X-ray (figure 2) and CT detected a foreign body under the left scapula.

The patient underwent surgery under local anaesthesia, with a mini-incision corresponding to the sixth intercostal space on the wall of the posterior thorax, and a piece of knife was removed

(figure 3). The patient was performing well on follow-up after discharge.

INVESTIGATIONS

Penetrating thoracic injuries can damage more than one intrathoracic structure and frequently require urgent surgical intervention due to life-threatening consequences.² Doctors and others may easily overlook probable foreign bodies while attending to vital diagnoses in patients with penetrating thorax trauma. A case reported by Chang *et al*³ is a good example of this situation. In their paper, Chang *et al*³ reported on a 52-year-old woman presenting with stab wounds on her back and upper extremities. The emergency department overlooked an 18 cm knife retained in her chest wall. These authors remind us that an obvious foreign body can be missed, even after obtaining a detailed history, performing a complete physical examination and viewing a plain film.

Metallic foreign bodies may migrate to any part of the body.⁴ In the present case, the knife piece was overlooked during two different examination periods in two different hospitals. However, the current authors' felt a hard object present on the chest wall in their examination. Previous physical examinations may have been inadequate or the foreign body may have migrated from a deeper region to the surface of the chest wall.

Retained foreign bodies are highly susceptible to pyogenic infections, and these infections are resistant to antibiotic therapy before the foreign bodies are removed.⁵ The findings of the physical examination in the current case were focal heat increase, swelling and pain that became more marked with palpation. However, the infections related to the retained foreign body were misdiagnosed as infections at the knife's entrance site. Surgery should be the first-line treatment of retained metallic foreign bodies.⁶ Here, a piece of knife was removed with a mini-incision of the chest wall and the patient was performing well on follow-up.

In conclusion, in cases where a foreign body is suspected, doctors should definitely inquire about operation and trauma history. Physical examinations should be repeated frequently, especially in cases with penetrating acute trauma, to avoid overlooking a probable foreign body while attending to vital diagnoses. Everyone should keep in mind that a foreign body, which may remain indolent for some time, could threaten life later.

DISCUSSION

Penetrating thoracic injuries can damage more than one intrathoracic structure and frequently require urgent surgical intervention due to life-threatening

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Figure 1 Redness and swelling appeared on the posterior chest wall.

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Figure 2 Foreign body under the left scapula.

Figure 3 Piece of knife removed from the patient.

metallic foreign bodies.⁶ Here, a piece of knife was removed with a mini-incision of the chest wall and the patient was performing well on follow-up.

In conclusion, in cases where a foreign body is suspected, doctors should definitely enquire about operation and trauma history. Physical examinations should be repeated frequently, especially in cases with penetrating acute trauma, to avoid overlooking a probable foreign body while attending to vital diagnoses. Everyone should keep in mind that a foreign body, which may remain indolent for some time, could threaten life later.

Learning points

- ▶ Doctors may easily overlook probable foreign bodies while attending to vital diagnoses in patients with penetrating thorax trauma.
- ▶ In cases where a foreign body is suspected, doctors should definitely enquire about operation and trauma history.
- ▶ Infections related to the retained foreign body may be misdiagnosed with infections at the knife's entrance site.
- ▶ Surgery should be the first-line treatment of retained metallic foreign bodies.

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