Case report

Unusual case of self-inflicted thoracic knife wounds with five knives embedded in the left thoracic cavity

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Abstract
Suicide by chest stabbing is a rare cause of penetrating chest trauma. We hereby report a unique case of suicide attempt with multiple thoracic stab wounds and five embedded knives. Although the long kitchen knives were entirely embedded into the left hemithorax no fatal injury occurred. Emergency thoracotomy was performed to remove the knives and repair the lung laceration. Uneventful recovery followed.

1. Introduction
Stab wounds of the chest are a relatively common form of penetrating chest trauma although the incidences may greatly vary in different countries. According to the study performed in Manchester, 10.5% of patients admitted with stab injuries have self-inflicted wounds [1]. Similarly among fatal stab injuries 14.2% are self-inflicted [2]. Initial management of stab wounds usually consist of chest tube drainage, volume replacement and close observation to detect injuries of vital structures or continuous bleeding. Surgical treatment is needed in 14-25% of patients with stab wounds of the chest [1,3]. One of the rare indications for surgery is removal of the knife or other sharp objects embedded into the chest. Extraction of the foreign body is recommended to perform under direct vision using thoracotomy or sternotomy especially in case where the heart or large vessels injury is suspected [4,5].

We hereby present an unusual case of suicide attempt with six anterior chest wall stab wounds and five embedded knifes in the left hemithorax.

2. Case report
A fifty-three year old man was found at his home by neighbours with several stab wounds on his left anterior chest wall. An ambulance was called and the patient was immediately transported to the hospital. On admission to the emergency room, the patient was in a stable condition with blood pressure 140/80 mmHg and heart rate 130 per minute. Physical examination revealed marked elevation of the left anterior chest wall and six 1.5-2 cm long stab wounds in the same region. Subcutaneous emphysema was present as well. The elevated region was firm on palpation, and therefore, subcutaneous foreign bodies were suspected. However, chest radiograph demonstrated several metallic foreign bodies extending far into the left thoracic cavity (Fig. 1). Although the patient was conscious he did not give any explanation about the trauma.

The patient was transferred to the operating room for left sided thoracotomy. After the skin incision was made over the elevated region of the chest, we found five knives all entering the thoracic cavity from the fifth intercostals space (Fig. 2). Thoracotomy was performed from the same intercostals space and knives, one by one, cautiously removed from the lung. No major bleeding occurred. The knives had caused penetrating wounds of the lingula and laceration of the lower lobe. A tiny pericardial scratch was also present, but no heart injury had occurred. After removing the knives, the lingula was partially resected and the lower lobe defect repaired by simple sutures. The postoperative course was uneventful. Chest tubes were removed on the 7th postoperative day. After the operation the patient admitted that he was severely depressed for a long time and tried to commit suicide by pushing knives into his left chest. On the 10th postoperative day, the patient was transferred from surgical ward to the psychiatry department. He had no complaints and his chest radiograph was completely normal. The same was found on a follow-up visit 6 months later.

3. Discussion
Stab wounds of the chest occur most commonly due to violent attacks. Suicide by stabbing is rare constituting only...
Embedded foreign bodies are present more often in accidental penetrating chest injuries. In our case, no foreign bodies were seen on physical examination, but only the chest radiograph revealed several metallic objects entering the left lung through the anterior chest wall. Although no major hemo- or pneumothorax was present, injuries of the vital structures could not be excluded, due to the location of the wounds on the left anterior chest wall and presence of long irregular metallic foreign bodies deep in the lung parenchyma in close proximity of the heart. Also, the patient did not give any explanation about the trauma prior to surgery. Extraction of embedded objects from the chest can result in major bleeding, hemodynamic deterioration and rapid death of the victim [9]. Therefore, it has been suggested to remove knives under direct vision in the operating room [4,5]. Usually sternotomy or thoracotomy is used, but recently there has also been a case report to describe VATS approach to guide extraction of embedded knife from the chest [10]. In our case, thoracotomy seemed to be unavoidable due to the fact that multiple foreign objects were present and all were entirely embedded into the chest.

It has been demonstrated that in the case of terrorist attacks with stabbing the increased number of wounds is clearly associated with higher mortality [9]. No patient in that particular study with six or more wounds survived. In our case, a suicide attempt with six wounds and five knives embedded into the thoracic cavity did not cause any fatal injury and the outcome was favorable.

Great variation of stab injuries of the chest can occur. The cause might be suicide or homicide, where single or multiple wounds of various depth causing injuries of different organs can be present. As demonstrated by this case report, multiple knives embedded into a chest can be found and it does not necessarily mean a bad prognosis.

References