

CASE REPORT

When a patient walks in with a knife in his back: A scene from the movies

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Abstract

Stab injury is a relatively common assault mode especially in developing countries. Having a preset protocol to follow with multidisciplinary departmental involvement whenever necessary helps with better management and outcome. It is important to rule out injury to the major neurovascular structures in such a presentation both clinically and by investigations.

KEYWORDS

Stab, violence, emergency, home-made knife.

1 | INTRODUCTION

Violence has been central to the human civilization since the origin of the humans itself and has been increasing everyday be it due to poverty, unemployment, or simply to establish power. Here, a case of a 28-year-old man who was stabbed in the back with a homemade knife is described with preoperative, operative description, pictures, and discussion.

2 | CASE DESCRIPTION

A 28-year-old man walked into the emergency room with an alleged history of a fight an hour back and was attacked with a weapon, a homemade knife, which was still lodged into the back of the patient in the midline with minimal bleed from the entry point. (Figure 1) He gave a positive history of alcohol consumption the same day with mild intoxication. He did have some abrasions and bruising to his upper torso and complained of pain and tenderness in the area of the lodged weapon with no active bleed.

In the emergency room, ATLS guidelines were followed where the airway, breathing, and circulation were intact and

normal. The patient was comprehensible with a GCS of 15/15, and all neurological facilities intact. A secondary survey did not reveal any other significant injuries to the body. Initial plain X-rays demonstrated a triangular opaque shadow at a depth of 5-7 cms into the body at the level of 8th-9th dorsal vertebrae close to the midline with no fracture. (Figure 2) Since the patient's neurological survey, the spinal cord and the vertebrae were intact and after discussion with the radiologist it was established that there was no injury to it. A USG scan was done for further evaluation with no positive finding noted in the back region and without any collection in the thorax, abdomen, or retroperitoneum.

He was taken into the operation theater and under general anesthesia, the patient was placed in prone position and the stab site was explored and the knife extracted. (Figure 3) The home-made knife was lodged 6 cms deep into the body lodges in the muscles and next to the 8th-9th vertebrae. There was no injury to any vertebrae or to the major vascular structures and organs. (Figure 4) The knife seemed to have deflected off the spinous and transverse processes of the dorsal vertebrae, which prevented any major and devastating injuries. The wound was closed in layers, and the patient was shifted to the ward. The patient was discharged on 2nd postoperative day, and on

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FIGURE 1 Patient with the weapon lodged in the back



FIGURE 2 X-ray showing the weapon in the posterior thoracic region

follow-up, he is asymptomatic and healthy. There was also no neurological deficit that was noted in the postoperative period.

3 | DISCUSSION

Violence and bodily injury can result due to many factors and causes. We are in a world where stab wounds are most generally homicidal, followed by suicidal or accidental.¹ An associated alcohol intoxication in such patients makes the clinical evaluation of such patients more difficult.² Literature shows



FIGURE 3 The wound after the weapon was removed

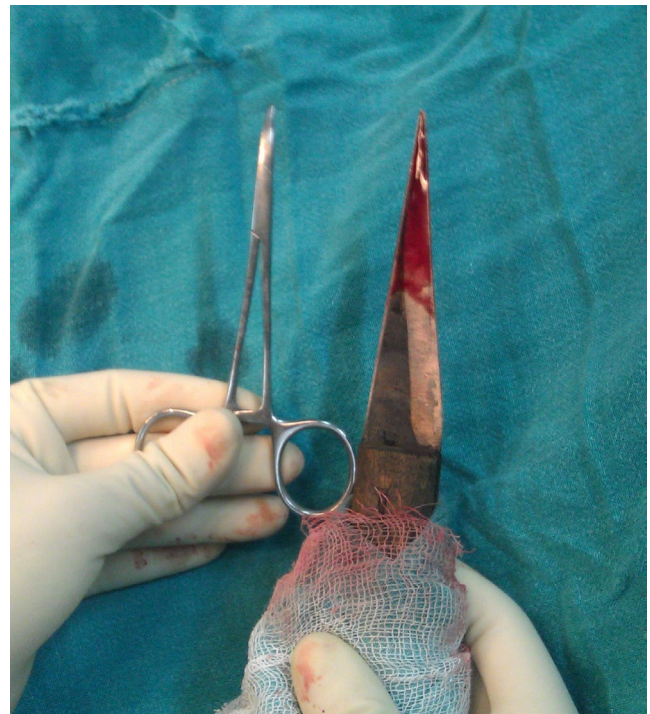


FIGURE 4 Comparing the size of the weapon using a hemostat forceps

the incidence of stabbing to be higher in young men, most to the thoracic spine (61%) and least to the lumbar spine (7%).³

Direct central back stabbings rarely produce serious injuries to the spinal cord and the retroperitoneal structures due to the presence of muscles and vertebrae, with the spinous and transverse processes deflecting the blows laterally. There is a lot of debate regarding the management of stab wounds to the back and flank, mainly as they can pose a special problem due to the difficulty in clinically evaluating the retroperitoneal organs with physical examination and FAST. In a clinically stable patient, nonoperative management can be tried with the use of triple contrast CT scan as a tool to ensure no serious injury is present.⁴ In our patient, the stab was in the lower posterior thoracic region and had deflected from the vertebrae with no associated neurological deficit. After the primary survey, we

were concerned if the stab was deep enough to injure the major vessels leading to thoracic, retroperitoneal, or abdominal collection after viewing the position of the knife in the lateral chest X-Ray, as the knife seemed to be deeply lodged. However, there was no collection in the thorax. A CT scan could not be done as the metallic knife was still lodged in and we had to rely on X-Ray and USG for conclusion.

Digital exploration of the wound under local anesthesia can also be done for assessment of peritoneal breach and the depth but is not useful for evaluation of intra-abdominal injuries. The local wound exploration must be technically adequate, sufficient exposure of the wound is required to follow the tract of the stab.⁵ Some trauma centers advocate mandatory laparotomy for all penetrating stab wounds to the abdomen.⁶

However, in case of intestinal eviscerations the treatment includes prompt resuscitation, exclusion of other injuries, with an early and careful laparotomy allowing uneventful recovery a possibility. Immediate laparotomy is necessary for patients with hemodynamic instability, presence of peritonitis, evisceration, or impalement injuries.⁷ The policy of mandatory laparotomy leads to many negative laparotomies, up to 53%.⁸

Mandatory laparotomy was considered the standard of care for abdominal stab wounds and gunshot wounds till the 1960s. The dictum of mandatory laparotomy for anterior abdomen wall stab wounds was challenged and a policy of “selective conservatism” was used, in which management was based primarily on clinical evaluation.⁹ Also since there are significant consequences of unnecessary laparotomy in terms of morbidity, hospital stay, and costs and even mortality, there were many tests aimed at determining whether the peritoneum had been entered, including sinography¹⁰ and local wound exploration.¹¹

In this patient, exploration of the stab site under general anesthesia was done for better assessment and exploration. Our concern was nervous and vascular injury but were excluded after exploration and the patient had an uneventful recovery thereafter.

4 | CONCLUSION

The patient presented with a GCS of 15/15 with no neurologic deficits; however, he was noted to have a knife lodged between the 8th and 9th thoracic vertebrae. Given no fluid collection was noted in the retroperitoneal, thoracic, or abdominal space, transection of any major vessels was ruled out. After multidisciplinary evaluation including surgical, orthopedic, and radiology colleagues, the determination was made that the knife could be safely removed operatively. The patient was discharged 2 days postoperatively with no neurologic deficits noted in the postoperative evaluation on day 30. We suggest the use of a preformed protocol and involvement of a multidisciplinary team when necessary to achieve a timely diagnosis and treatment.

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CONFLICT OF INTERESTS

None.

AUTHOR CONTRIBUTIONS

TS: contributed to conception and design of the study, and acquisition, analysis, and interpretation of data. AS: contributed to analysis and research.

ETHICAL APPROVAL

Ethical approval was attained from the institutional review board.

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