



RESEARCH ARTICLE

DOUBLE TROUBLE: TWO ORGANS WITH ONE STAB - A CASE REPORT

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Abstract

Penetrating thoracic injuries are commonly encountered in emergency settings, particularly among young adults. While most chest stab wounds involve the lungs or ribs, diaphragmatic and intra-abdominal injuries from such trauma are far less common and easily missed. Gastric perforation secondary to chest trauma is extremely rare. Early diagnosis is crucial to prevent complications such as peritonitis and sepsis. We present a case of gastric perforation resulting from a stab wound to the chest without visible abdominal trauma, underscoring the need for a high index of suspicion in such cases.

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Introduction:-

Penetrating thoracic injuries are commonly encountered in emergency settings, particularly among young adults. While most chest stab wounds involve the lungs or ribs, diaphragmatic and intra-abdominal injuries from such trauma are far less common and easily missed. Gastric perforation secondary to chest trauma is extremely rare. Early diagnosis is crucial to prevent complications such as peritonitis and sepsis. We present a case of gastric perforation resulting from a stab wound to the chest without visible abdominal trauma, underscoring the need for a high index of suspicion in such cases.

Case Report:

An 18-year-old male presented to the emergency department in an intoxicated state, reporting a fall from a two-wheeler onto an iron rod, resulting in three chest wounds 12 hours prior. On arrival, the patient was hemodynamically stable. Examination revealed three sutured wounds on the left chest wall, one of which was actively discharging pus. There were no signs of abdominal tenderness, guarding, or rigidity.

Fig. 1: 3 stab wounds over left side of chest

Initial investigations included a chest X-ray, which was unremarkable.

E-FAST ultrasound revealed minimal perisplenic fluid. On local wound exploration, lung parenchyma was palpable under the chest wall. A contrast-enhanced CT scan demonstrated subcutaneous emphysema, lung parenchymal injury, and mild pneumoperitoneum with air foci in the subhepatic and perisplenic regions.



Fig. 2 and 3: presence of multiple air foci in subhepatic and perisplenic regions; penetrating stab wound extending until lung parenchyma causing ~3 cm laceration over the lung
Further inquiry into the patient's history revealed an earlier episode of assault three days prior, during which he sustained stab injuries to the chest. In view of pneumoperitoneum and possible diaphragmatic or hollow viscus – possibly splenic injury, the patient was taken up for exploratory laparotomy.

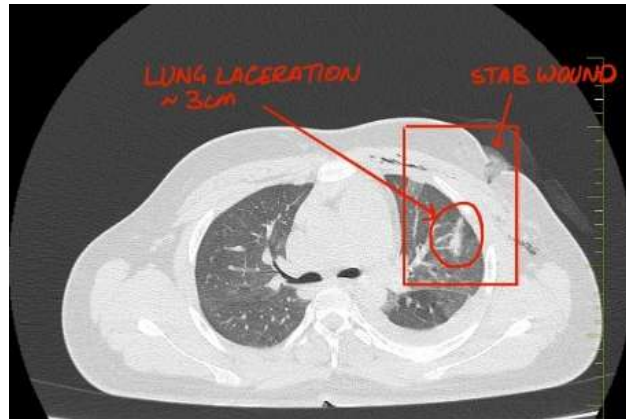


Fig. 4 and 5: tear over the left hemidiaphragm; repair of gastric perforation
Postoperatively, the patient was managed with broad-spectrum antibiotics and supportive care. He made a steady recovery, resumed enteral feeding by postoperative day 4, and was discharged in stable condition on postoperative day 7.



Diaphragmatic tear



Gastric perforation repair

Results.

Intraoperatively, a 2 cm rent in the left hemidiaphragm and a 1×1 cm gastric perforation at the inferior border of the stomach were identified, with 3200 ml of purulent fluid and food particles in the peritoneal cavity. The stomach perforation was repaired with Modified Graham's Omentoplasty, and the diaphragmatic tear was sutured primarily. A left-sided intercostal drainage tube was inserted, evacuating purulent material mixed with food content.

Discussion.

Diaphragmatic injuries are rare but potentially serious consequences of penetrating chest trauma. Because the diaphragm is a thin muscle and lies between thoracic and abdominal cavities, penetrating chest wounds can result in a transdiaphragmatic trajectory, injuring intra-abdominal organs like the stomach². However, in the absence of overt abdominal signs, diagnosis can be delayed³.

Pneumoperitoneum in the setting of chest trauma without abdominal signs should raise suspicion of diaphragmatic and hollow viscus injury⁴. Contrast-enhanced CT scanning remains a valuable tool for detecting subtle diaphragmatic disruptions and free intraperitoneal air⁵. In such cases, timely surgical intervention via exploratory laparotomy or thoracotomy is necessary to reduce morbidity and mortality⁶.

This case reinforces the need to carefully assess all chest trauma patients for potential intra-abdominal injury, particularly when there is a mismatch between history, clinical findings and imaging results.

Conclusion.

Penetrating chest trauma may mask life-threatening intra-abdominal injuries such as gastric perforation and diaphragmatic rupture. A high index of suspicion, detailed patient history, and appropriate imaging are essential for timely diagnosis. This case highlights the importance of prompt surgical exploration in chest trauma patients with signs of pneumoperitoneum, even when classical abdominal signs are absent.

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