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CASE REPORT

Conservative management of gunshot oesophageal injuries: A report of two consecutive exceptional cases



Prise en charge conservatrice des blessures par balle œsophagiennes : Étude de deux cas consécutifs exceptionnels

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Introduction: Oesophageal trauma carries high mortality and morbidity. For penetrating intrathoracic oesophageal injury, surgical repair has been the standard for decades to avoid its devastating consequences.

Case report: Both patients presented with a thoracoabdominal gunshot wound and retained intraabdominal missile. Although there were no visible signs of perforation on oesophagoscopy or contrast swallow, the presence of an intraluminal bullet highly suggested a thoracic oesophageal injury.

Discussion: Non-operative management of intrathoracic oesophageal perforation is controversial. Small perforations or contained leaks diagnosed within 24–48 h in a stable patient with no mediastinitis or empyema can be managed non-operatively with antibiotics and nasogastric feeds. These two case reports support the notion of selective non-operative management of asymptomatic patients with penetrating injury to the oesophagus.

Introduction: Les traumatismes œsophagiens sont associés à une mortalité et à une morbidité élevées. Pour les blessures œsophagiennes intrathoraciques pénétrantes, la réparation chirurgicale a été la norme pendant plusieurs dizaines d'années, l'objectif étant d'éviter ses conséquences dévastatrices.

Étude de cas: Chacun des patients s'est présenté avec une blessure par balle thoraco-abdominale et le projectile toujours présent dans l'abdomen. Bien qu'aucun signe de perforation n'était visible à l'oesophagoscopie ou radiocinématographie de la déglutition, la présence d'une balle en intraluminal suggère fortement une blessure œsophagienne au niveau du thorax.

Discussion: La prise en charge non opératoire de la perforation œsophagienne intrathoracique est controversée. Les petites perforations ou fuites contenues diagnostiquées dans les 24 à 48 heures chez un patient stable sans médiastinite ou empyème peuvent être prises en charge de manière non opératoire à l'aide d'antibiotiques et d'une sonde nasogastrique. Ces deux études de cas privilégient la notion de prise en charge non opératoire sélective pour les patients asymptomatiques souffrant de blessure pénétrante à l'œsophage.

African relevance

- Penetrating trauma is a significant burden in Southern Africa.
- Unnecessary exploration carries risk and morbidity.
- In a resource constrained, middle- or low-income setting, a non-operative approach should be considered when possible.

Introduction

Oesophageal perforation in civilian trauma continues to present a diagnostic and therapeutic challenge. The mortality

and morbidity associated with oesophageal injury remain high, especially when diagnosis and treatment are delayed for twelve or more hours, at which point mortality can reach as high as 40%.¹

Reported oesophageal injury is now more iatrogenic and related to endoscopic instrumentation for various gastro-oesophageal conditions.¹ Oesophageal injury due to transmediastinal gunshot wounds is uncommon—estimated at two to nine patients per year even in busy trauma centres²—and when it occurs, the refluxed gastric content rapidly contaminates the mediastinum and pleural cavities, with devastating consequences. Early diagnosis and rapid surgical repair have remained the standard of care for decades.²

We present two unusual cases of presumed oesophageal injury from gunshot injuries with identical evolution, treated conservatively successfully.

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Case report

Case one

A 30-year-old man was admitted to the Groote Schuur Hospital Trauma Centre (GSHTC) following a thoracic gunshot wound. The entrance wound was in the midline of the back at the level of the tenth thoracic vertebra (T10). There was no exit wound. The patient was fully alert and haemodynamically stable. He had complete neurological fallout at T5 level. A Lodox Statscan™, low-dose full-body digital X-ray, showed bullet fragments from T4 to T10 level and the presence of a large fragment (3/4th size of the original bullet) in the epigastric region. The migration of the bullet in the next radiograph suggested that it was intraluminal. A CT scan of the abdomen reported caudocranial and antero-oblique bullet tract with soft tissue haematoma and surgical emphysema of the back, comminuted fracture of the posterior elements of T10, bone and bullet fragments in the spinal canal at T9, and T10 with an extensive intraspinal haematoma and comminution of the vertebral bodies T4–T8 with bullet fragments along the tract. An extensive pneumomediastinum (Fig. 1) with in-situ bullet fragments and surgical emphysema extending up into the neck and right chest wall made high suspicion of both oesophageal and tracheal injury. No haemopneumothorax, no intraabdominal organ injury, or no intraperitoneal free fluid were demonstrated.

After CT scan, the patient had contrast swallow which was unremarkable. Due to the high spinal cord injury, the abdom-

inal physical findings were unreliable to exclude an intraperitoneal hollow visceral injury. The patient underwent an exploratory laparotomy, and no intraabdominal injury was found. The CT results and oesophageal proximity to the presumed trajectory prompted an intraoperative bronchoscopy and oesophagoscopy. The rigid bronchoscopy showed small mucosal haematoma at 9 cm and 12 cm on the right posterolateral aspect of the trachea. No hole or bleeding was seen. The flexible oesophagoscopy showed mucosal haematoma at 24 cm on the right posterolateral aspect of the oesophagus with no visible oesophageal perforation. The missile was identified and palpable in the small bowel lumen. It was left in-situ and monitored during the recovery with serial abdominal X-ray until spontaneously expelled. The patient was treated with broad-spectrum antibiotics and nasogastric enteral feeding. A follow-up water soluble contrast oesophagogram on day ten was also unremarkable. The patient started to eat orally and was discharged on day 14 post admission.

Case two

The second patient was a 29-year old man admitted to the GSHTC. He was a victim of a gunshot wound with entrance wound on the left side of the back at the level of the third thoracic vertebra (T3). There was no exit wound. On admission, the patient was haemodynamically stable with no significant symptoms. A Lodox Statscan™ showed left haemopneumothorax and the possible presence of a bullet in the stomach cavity. The features of an abdominal CT scan was suspicious for a

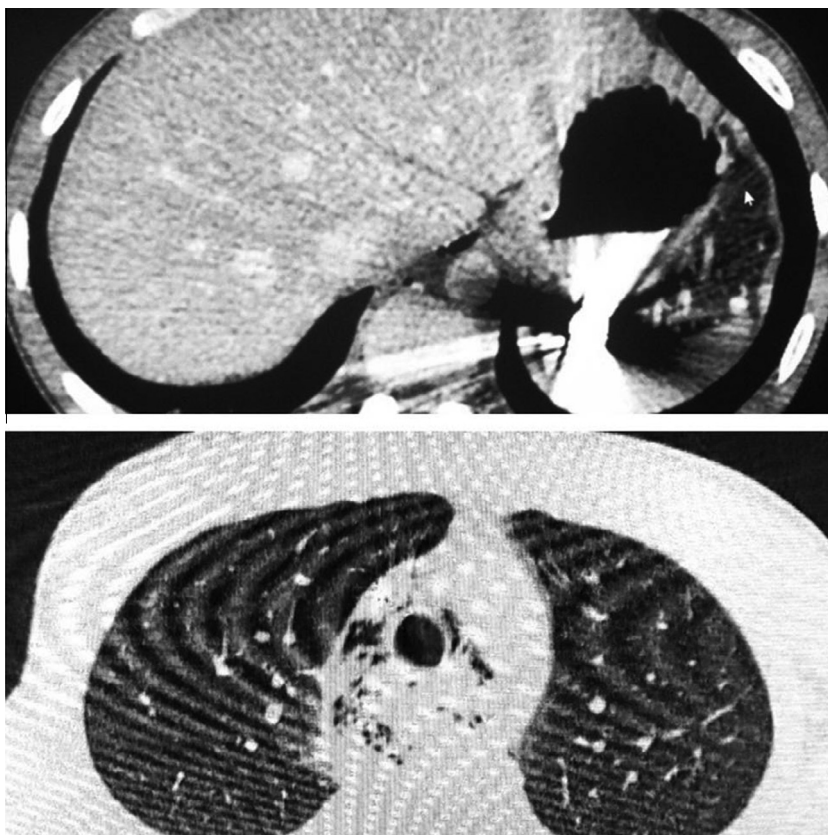


Figure 1 Above shows intraabdominal bullet and below shows extensive pneumomediastinum and surgical emphysema in Patient One.

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