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Case Report

Gastric perforation following blunt abdominal trauma

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ABSTRACT

Gastric perforations following blunt abdominal trauma are rare, accounting for <2% of all blunt abdominal injuries. Isolated blunt gastric ruptures are uncommon. They are usually associated with other solid visceral injuries. Injuries to the stomach are associated with the highest mortality of all hollow viscus injuries. Severity of the injury, timing of presentation and presentation following the last meal as well as concomitant injuries are important prognostic factors. Imaging modalities may be unreliable in making a diagnosis and thus clinical vigilance is mandatory. We present a patient with gastric perforation following blunt abdominal trauma and review the literature.

Introduction

Blunt abdominal trauma (BAT) following assaults, motor vehicle accidents and falls not uncommonly results in solid organ (liver, spleen and kidney), diaphragmatic, pancreatic and retroperitoneal injury. Hollow viscera injuries to duodenum, jejunum, urinary bladder and the colo-rectum are also not uncommon with an incidence that varies between 4 to 15% [1,2]. However, by contrast, gastric perforations following BAT have an incidence of between 0.02 to 1.7%. A multicentre retrospective analysis of blunt gastric injuries from four trauma centres in Brazil over a 14 year period yielded only 33 cases of gastric perforation [3]. The rarity of gastric perforation developing following BAT in civilian practice together with the inconsistent diagnostic yield from standard investigations has led to this condition being invariably recognised at laparotomy. In this case report we describe an anterior gastric perforation following BAT due a motor vehicle accident.

Case report

A 29 years old male patient presented with severe abdominal pain and distention as a result of blunt abdominal trauma sustained in a motor vehicle accident 2 h previously. At presentation, the patient was fully conscious, normotensive with a pulse rate of 112/min. The haemoglobin was 13.6 g/dL. Multiple bruises and abrasions were evident over the anterior chest and epigastrium. The abdomen was distended and peritonitic. The patient was also tender over the left lower anterior chest wall; air entry was normal. Radiological investigations revealed a pneumoperitoneum and fractures involving ribs 10, 11 and 12 along the left anterior chest wall.

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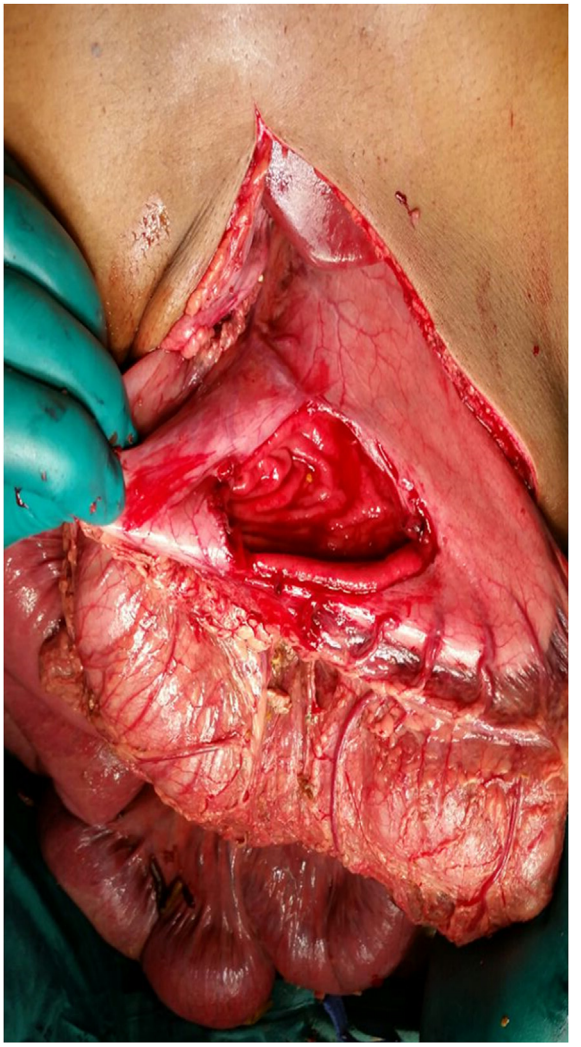

Fig. 1. Full thickness perforation along the anterior gastric wall measuring 5 cm extending proximally from the juxta-pylorus along the longitudinal gastric axis.

At laparotomy serosanguinous fluid with undigested food particles was noted. A full thickness anterior gastric perforation measuring 5 cm extended proximally from the pylorus along the longitudinal gastric axis (Fig. 1). This was classified as a Grade II gastric injury (Table 1) [4].

Haematomas were noted over the transverse colon, jejunum and ileum and were managed conservatively. The gastric perforation was repaired in a standard fashion. The patient made an unremarkable and was discharged on the 7th post-operative day.

Table 1
Grading of gastric injuries [4].

	Grading of gastric injuries	
Grade I	Intramural hematoma < 3 cm Partial thickness laceration	
Grade II	Laceration:	<2 cm in GE junction/pylorus <5 cm in proximal one-third <10 cm in distal two-third
Grade III	Laceration:	>2 cm in GE junction/pylorus ≥5 cm in proximal one-third ≥10 cm in distal two-third
Grade IV	Vascular:	Tissue loss/devascularisation ≤ two-third stomach
Grade V	Vascular:	Tissue loss/devascularisation ≥ two-third stomach

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