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Short Commentary Open Access

Blunt Abdominal Trauma: The Importance of Clinical Signs for Early Detection of Jejunal Rupture

Wolfgang G Mouton* and Kim T Mouton

Department of Surgery, Spital STS AG, 3600 Thun, Switzerland

***Corresponding author:** Wolfgang G Mouton, Department of Surgery, Spital STS AG, 3600 Thun, Switzerland, Tel: +41332262921; Fax: +41332262933; E-mail: wolfgang.mouton@spitalthun.ch

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Short Commentary

Gastrointestinal tract injuries (GITI) are found in 5% to 17% of laparotomies performed for blunt abdominal trauma. Motor vehicle accidents play an important role [1]. Less than one half of the GITI's caused by blunt abdominal trauma are reported to have enough clinical findings to indicate laparotomy. Laparotomy based on clinical signs alone shows a negative exploration rate of up to 40% [1]. Clinical signs have an important role in combination with radiological examinations and observations.

Haemodynamically unstable patients undergo immediate laparotomy. In haemodynamically stable patients focused abdominal sonography for trauma (FAST) is recommended as an initial investigation [2-6].

FAST is accurate for solid organ injuries, but less accurate for detection of gastrointestinal injuries, particularly small bowel injuries [4,5]. CT is an excellent radiological investigation in haemodynamically stable patients following blunt abdominal trauma [7,8]. The sensitivity is reported between 69% and 95%, specifity between 95% and 100% to detect GITI [7].

GITI can be suspected in a CT scan when free fluid without organ injuries is present, when the bowel wall is thickened, when mesenteric fat or mesenteric haematoma is present as well as when pneumoperitoneum is detected or extravasation of contrast (Figure 1).

In situations with little or without radiological signs for GITI clinical signs such as peritonism and sudden onset of abdominal pain are indicators for explorative laparoscopy and/or laparotomy.

Early detection of GITI is important as there is an increasing morbidity and mortality if the laparotomy is delayed beyond 24 hr. In conclusion, clinical signs play an important role, despite availability of FAST and CT to detect small bowel injuries. Early laparotomy should be pursued if clinical suspicion exists.

A female patient lost control of her toboggan, when suddenly it started raining and came off the track. Initial FAST showed a small amount of free fluid in the abdomen. A CT abdomen was performed which showed no free gas, little free fluid and no signs of solid organ injury.

After initially uneventful observations the patient suddenly complained about severe abdominal pain 16 hours after the trauma.

Peritonitic signs had developed and the blood pressure slowly decreased. For these reasons the patient was taken immediately to theatre for a midline laparotomy without repeating radiological examinations (and without performing a diagnostic abdominocentisis). A jejunal perforation required a short jejunal segment to be resected with an end-to-end anastomosis. In the postoperative course, there were only minor complications.

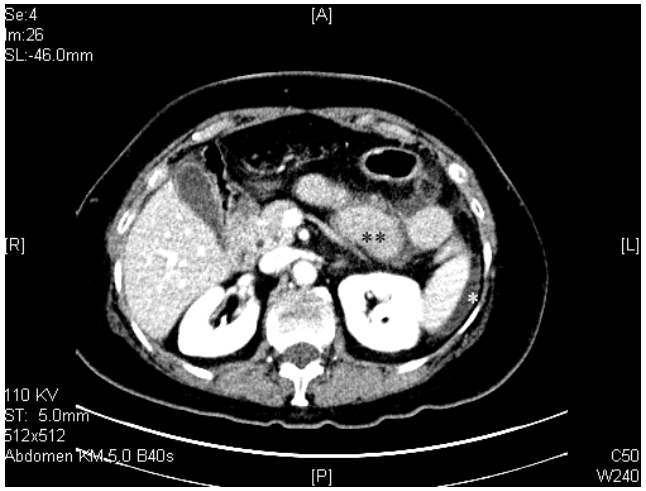

Figure 1: CT abdomen at the site of the later discovered jejunal rupture, showing free fluid around the spleen and a slightly distended jejunum.

References

1. Hughes TMD, Elton C (2002) The pathophysiology and management of bowel and mesenteric injuries due to blunt trauma. Injury 33: 295-302.
2. Lee BC, Ormsby EL, Mc Gahan JP, Melendres G, Richards JR (2007) The utility of sonography for the triage of blunt abdominal trauma patients to exploratory laparotomy. AJR Am J Roentgenol 188: 415-421.
3. Brown MA, Casola G, Sirlin CB, Patel NY, Hoyt DB (2001) Blunt abdominal trauma: screening in us in 2693 patients. Radiology 218: 352-358.
4. Richards JR, McGahan JP, Simpson JL, Tabar P (1999) Bowel and mesenteric injury: evalutation with emergency adominal ultrasound. Radiology 211: 399-403.
5. Valentino M, Serra C, Zironi G, De Luca C, Pavlica P, et al. (2006) Blunt abdominal trauma: emergency contrast-enhanced sonography for detection of solid organ injuries. AJR Am J Roentgenol 186: 1361-1367.
6. Stassen NA, Lukan JK, Carrillo EH, Spain DA, Richardson JD (2002) Abdominal seat belt marks in the area of focused abdominal sonography for trauma. Arch Surg 137: 718-722.
7. Hagiwara A, Yukioka T, Satou M, Yoshii H, Yamamoto S, et al. (1995) Early diagnosis of small intestine rupture from blunt abdominal trauma using computed tomography: significance of the streaky density within the mesentery. J Trauma 38: 630-633.

8. Pimenta de Castro J, Gomes G, Mateus N, Escrevente R, Pereira L, et al. (2015) Small bowell perforation and mesentery injury after an unusual blunt abdominal trauma-case report. Int J Surg Case Rep 7: 51-53.