

# CT findings of a rare case of mesenteric injury due to blunt abdominal trauma

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## Dear Editor,

We read with interest the article by Mc Anena OJ, Moore EE, Marx JA in the June 1990 issue of the Surg Clin North Am initial evaluation of the patient with blunt abdominal trauma. Mesenteric injury (MI) due to blunt abdominal trauma is uncommon and may be difficult to diagnose. MI has high mortality and morbidity risks (1).

Steering wheel blunt trauma causing abdominal organ injury is uncommon. They include contusions and lacerations of varying severity and frequency in the mesentery of small and large bowels (2).

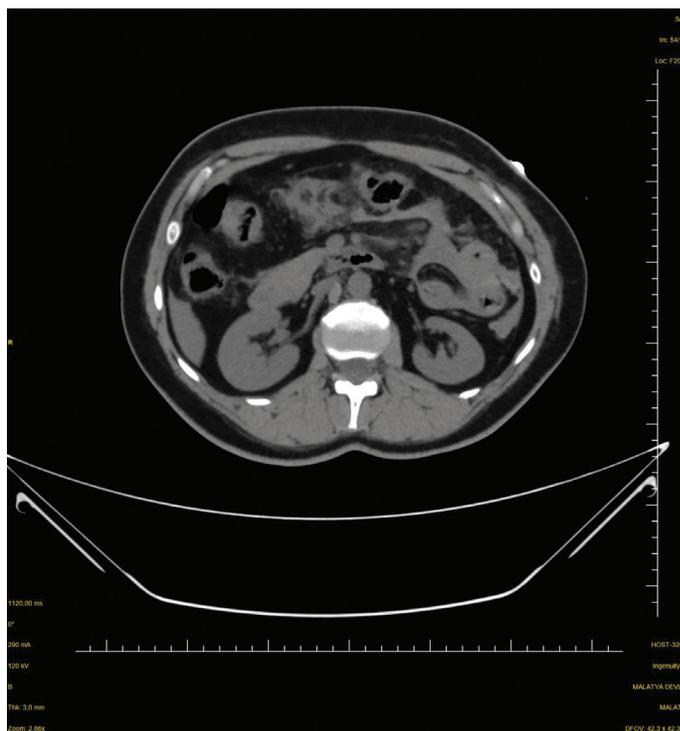
It is critical to improve early diagnosis and surgery results. Computed tomography (CT) plays a major role in the evaluation of patients with history of blunt abdominal trauma and suspected mesenteric injury. CT with oral contrast material is useful to detect injury to the bowel and mesentery (3).

CT findings of mesenteric or bowel injury are: bowel discontinuity, extra luminal oral contrast material, extra luminal air, intramural air, bowel wall thickening, bowel wall enhancement, mesenteric infiltration, intraperitoneal and retroperitoneal fluids, hemoperitoneum and mesenteric hematoma (4).

A 47-year-old woman was brought to the emergency service after a high speed car crash. On arrival at the emergency department, the Glasgow Coma Scale score was 15. There was no significant thoracic or cranial trauma. Abdominal sonography revealed free intraperitoneal fluid in all quadrants of the abdomen.

The patient was promptly transported to computer tomography room. Then we find these findings (Figure 1 and 2).

MI mechanism involves rapid deceleration, which produced a shearing force between fixed and mobile portions of the intestinal tract, leading to mesenteric disruption (5).

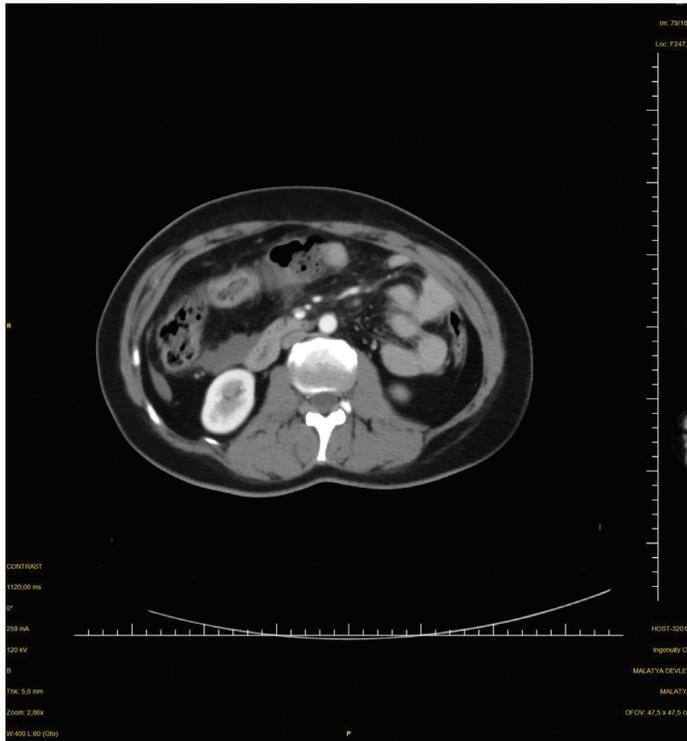


**Figure 1.** 47-year-old woman with infiltration of mesenteric fat. Non-enhanced CT scan shows opacification of transverse mesocolon (arrows). At surgery, this area of mesentery was found to have full-thickness tear with bleeding. Adjacent transverse colon had serosal tear.

MI is clinically important because, it may be associated with intraperitoneal/retroperitoneal or gastrointestinal bleeding, intestinal ischemia, stenosis, and perforation (6). Surgical treatment has been the standard treatment of choice for MI, especially active mesenteric bleeding. Delayed diagnosis of MI leads to intestinal infarction and bowel resection (7). CT is a good radiological investigation for evaluation of blunt abdominal trauma suspecting mesenteric injury.

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**Figure 2.** Enhanced CT scan shows hematomas (arrow) between mesenteric folds and bowel wall with thickening and enhancement. At surgery small mesenteric tears were found adjacent to focal hematomas.

**Conflict of Interest:**

**Authors declare no conflict of interest.**

**REFERENCES**

1. McAnena OJ, Moore EE, Marx JA. Initial evaluation of the patient with blunt abdominal trauma. *Surg Clin North Am* 1990;70(3):495-515.
2. Miller MA. Tolerance to steering wheel-induced lower abdominal injury. *J Trauma* 1991;31(10):1332-9.
3. Dowe MF, Shanmuganathan K, Mirvis SE, Steiner RC, Cooper C. CT Findings of mesenteric injury after blunt trauma: implications for surgical intervention. *AJR Am J Roentgenol* 1997;168(2):425-8.
4. Brody JM, Leighton DB, Murphy BL, Abbott GF, Vaccaro JP, Jagminas L, et al. CT of blunt trauma bowel and mesenteric injury: typical findings and pitfalls in diagnosis. *Radiographics* 2000;20(6):1525-36.
5. Hughes TM, Elton C. The pathophysiology and management of the bowel and mesenteric injuries due to blunt trauma. *Injury* 2002;33(4):295-302.
6. Asayama Y, Matsumoto S, Isoda T, Kunitake N, Nakashima H. A case of traumatic mesenteric bleeding controlled by only transcatheter arterial embolization. *Cardiovasc Intervent Radiol* 2005;28(2):256-8.
7. Brofman N, Atri M, Hanson JM, Grinblat L, Chughtai T, Breneman F. Evaluation of bowel and mesenteric blunt trauma with multidetector CT. *Radiographics* 2006;26(4):1119-31.