



A RARE CASE OF SIGMOID TRANSECTION DUE TO BLUNT ABDOMINAL TRAUMA WITH NO PNEUMOPERITONEUM - A CASE REPORT

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ABSTRACT

Intestinal & Mesenteric injury in blunt abdominal trauma is infrequent & more common in penetrating injuries [1-6]. CT is an effective imaging modality for diagnosis, but not always reliable to pick up intestinal & mesenteric injuries. Henceforth possess a diagnostic difficulty & results in therapeutic delay. Limited literature is available in this domain. Here, we report a case of 26 year old male with blunt abdominal injury, kept initially under observation & taken up for emergency surgery due to hemodynamic instability. Patient underwent Hartman's procedure. Currently, patient is healthy. Purpose behind this paper, is to raise clinical suspicion of intestinal & mesenteric injuries in high impact blunt abdominal trauma, need for additional research to aid in timely diagnosis & definitive management & decreased morbidity & mortality.

KEYWORDS : BLUNT TRAUMA, SIGMOID COLON PERFORATION , PNEUMO-PERITONEUM

INTRODUCTION:

Intestinal & Mesenteric injury in blunt abdominal trauma is infrequent & more common in penetrating injuries [1-6]. CT is an effective imaging modality for diagnosis, but not always reliable to pick up intestinal & mesenteric injuries . Henceforth possess a diagnostic difficulty & results in therapeutic delay. Limited literature is available in this domain. Purpose behind this paper, is to raise clinical suspicion of intestinal & mesenteric injuries in high impact blunt abdominal trauma, need for additional research to aid in timely diagnosis & definitive management & decreased morbidity & mortality.

Case Report:

Here, we report a case of 26 yr old male presented to emergency room with A/H/O RTA- fall from a three wheeler and sustained injury to abdomen and pelvis. No H/O any other injuries or comorbidities. No addictions/allergy

O/E: Patient conscious, coherent, cooperative; GCS- E4V5M6

Vitals:

- 1. PR- 102/min
- 2. BP-100/70 mmhg
- 3. SPO2-94% on room air
- 4. GRBS- 155 mg/dl

On abdominal examination: Distended abdomen with bruising noted at the hypogastrium. Diffuse tenderness & guarding with sluggish bowel sounds. Shifting dullness noted on percussion. On DIGITAL RECTAL EXAMINATION , blood staining noted.

Investigations

HEMOGRAM	HB: 12.2 g/dl WBC: 4,400 Platelets: 2,21,000
XRAY CHEST & ERECT ABDOMEN	Normal study
ULTRASOUND ABDOMEN & PELVIS	Mild- moderate hemoperitoneum
PLAIN CT ABDOMEN & PELVIS	Mild hemoperitoneum, (L) iliac bone linear fracture at ala with no displacement, no pneumoperitoneum. [FIGURE 1 and FIGURE 2]

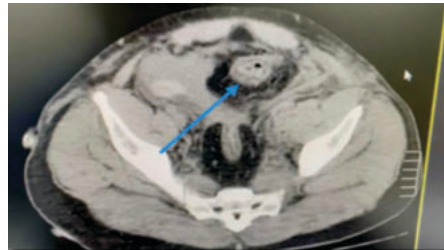


Figure 1: Ct Abdomen Showing Section Of Sigmoid Colon

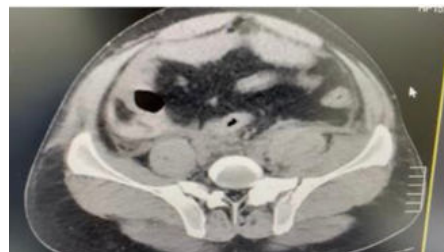


Figure 2: Ct Abdomen Showing Fracture At Left Iliac Bone Linear Fracture At Ala

Patient was resuscitated, put under observation & monitored. Progressive deterioration in patient's vitals & significant drop in HB noticed. Patient was taken up for EXPLORATORY LAPAROTOMY



Figure 3: Intra op Picture of Sigmoid Colon Transection

Intraoperatively, sigmoid colon transection was identified at rectosigmoid junction. ~750ml hemoperitoneum evacuated.

No evidence of mesenteric injury/hematoma noted [FIGURE 3]

Distal stump closure with proximal end colostomy done. Post operative stay uneventful & patient discharged after suture removal.

DISCUSSION

- Colon & rectal injuries are common with penetrating trauma than with blunt trauma.
- Incidence in blunt trauma; 0.2-05%, majority being hematomas & serosal tears.
- Colonic trauma is commonly classified as either destructive v/s non-destructive.
- Destructive injury in penetrating trauma is defined as wounds >50% of colonic circumference, complete transection, presence of devascularized segments[8-11].
- Destructive injury in blunt trauma is defined as serosal tears >50% circumference, full thickness perforation & mesenteric devascularization.

Mechanism - Blunt trauma:

- Direct crush/rupture, when rate of compression results in rapid elevation in intraluminal pressure.
- Seat belt injury; increased risk of intestinal perforation by factor of 2.4
- Injury to rectum may occur when severe pelvic fractures with sharp bone fragments cause a laceration.
- Colonic injuries may first be identified at time of laparotomy, prompted by hemodynamic instability.
- Abdominal CT limited & incapable to detect intestinal & mesenteric injuries.
- In DRE, absence of blood rules out rectal injury, but presence doesn't confirm it.

Destructive colon injuries

- In all high injury blunt trauma, intestinal perforation to be suspected.
- It's a challenge to make a positive diagnosis of traumatic intestinal mesenteric injury & furthermore to take a call if surgical intervention needed or not.
- Clinical assessment is crucial, serial monitoring of vitals is essential to assess hemodynamic status of patient.
- The presence of abdominal skin bruising may betray the risk of underlying intestinal injury.
- Abdominal tenderness & guarding are non-specific signs, since they can be seen with all abdominal injuries.
- Clinical examination may sometimes be hindered in presence of head injury, drug/alcohol intoxication.

CT findings in intestinal wall injury [1-7]:

- a) Discontinuity of intestinal wall
- b) Thickening of bowel wall
- c) Iv contrast- enhancement of wall defect
- d) Oral contrast- extravasation of contrast
- e) Pneumoperitoneum
- f) Free peritoneal/retroperitoneal fold

A false negative CT scan has been documented in 13% of cases in EAST study. Radiological interpretation requires considerable experience. Reports estimate that 27% of cases with isolated free peritoneal fluid with no evidence of solid organ/intestinal/mesenteric injury are in need of exploratory laparotomy[1,3].

CONCLUSION

- Early diagnosis of hollow viscus injury following a blunt abdominal trauma remains a major challenge due to its rare incidence & lack of definitive diagnostic method & treatment, subsequently resulting in high morbidity & mortality.
- Limitation of CT in identifying intestinal injuries further delays diagnosis as in this case, where no pneumoperitoneum was noted, despite complete

transection of sigmoid colon[8].

- In this case we decided to do Hartmann's procedure due to complete transection & delayed intervention[4-6,8].
- Limited literature is available on intestinal injuries in blunt abdominal trauma
- Additional research is needed to aid in early diagnosis & definitive management of such cases.

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