Original Research Paper

Volume - 14 | Issue - 10 | October - 2024 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Surgery

BLUNT ABDOMINAL TRAUMA AND GRADE 4 SPLENIC LACERATION

Dr. Kalyani Dnyaneshwar Aher Post Graduate Resident, Department of General Surgery, Lokmanya Tilak Municipal Medical College and Hospital, Sion, Mumbai, Maharashtra

Dr. Ramprasad Murmure Lecturer, Department of General Surgery, Lokmanya Tilak Municipal Medical College and Hospital, Sion Mumbai Maharashtra

ABSTRACT The spleen is an organ shaped like a shoe that lies relative to the 9th and 11th ribs and is located in the left hypochondrium and partly in the epigastrium. Thus, the spleen is situated between the fundus of the stomach and the diaphragm. The spleen is the body's most vascular organ, containing about one unit of blood and passing about 350 liters of blood through it every day. When the spleen ruptures, it can cause significant bleeding. The spleen is the second most commonly injured organ in blunt abdominal trauma, with incidences ranging from 50% to 43%.Splenic complications after blunt splenic trauma range between 0 and 7.5% with a mortality of 7–18% in adults. Surgical management is required in approximately 20 to 40 percent of patients sustaining splenic injury. In this case report we present a 21yr male blunt trauma case of grade 4 splenic laceration managed by surgical intervention with preoprative and postoperative assessment .

KEYWORDS : Blunt abdominal trauma, Grade 4 splenic laceration

INTRODUCTION

The American Association of Surgery and Trauma (AAST) has established 5 grades of spleen injury, including imaging, operative, and pathological criteria for each grade. The classification used to discern splenic injuries typically relies on CT imaging.

- Grade I injuries are characterized by subcapsular hematomas less than 10% of the surface area, parenchymal lacerations measuring less than 1 cm in depth, and capsular tears.
- Grade II injuries involve subcapsular hematomas covering 10% to 50% of the surface area, intraparenchymal hematomas less than 5 cm long, and parenchymal lacerations measuring 1 to 3 cm long.
- Grade III injuries include subcapsular hematomas greater than 50% of the surface area or expanding hematomas, ruptured subcapsular or intraparenchymal hematomas greater than or equal to 5 cm in depth, and parenchymal lacerations greater than 3 cm in depth.
- Grade IV injuries include any injuries occurring alongside a splenic vascular injury or active bleeding confined within the splenic capsule. In addition, a parenchymal laceration involving segmental or hilar vessels resulting in more than 25% devascularization is classified as a grade IV injury.
- Grade V injuries are characterized by any splenic vascular injury with active bleeding extending beyond the spleen into the peritoneum, a shattered spleen, and hilar vascular injury resulting in devascularization of the spleen.

The common indications for splenectomy include:

- Hemodynamic instability: Hemodynamically unstable patients should be taken emergently to the operating room, which is considered an indication of emergent splenectomy.
- Peritonitis

Case Study

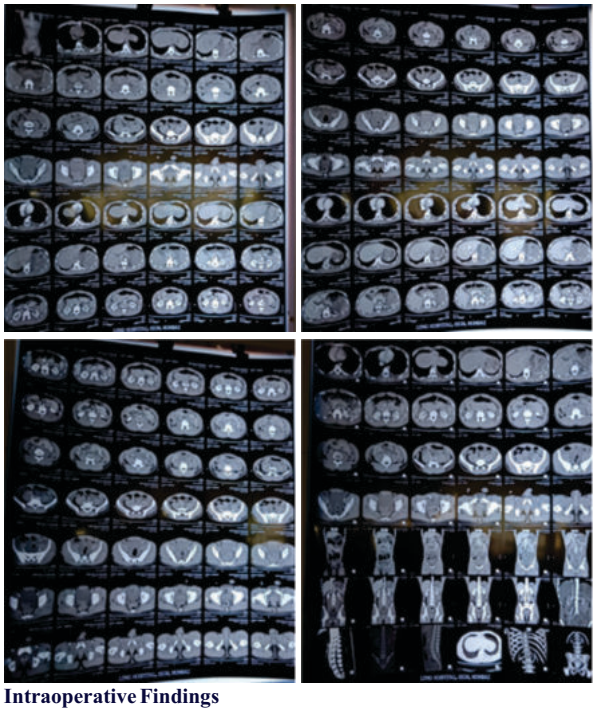
A 21year male,came with alleged history of fall from bike, giving history of trauma to left side of chest and abdomen, on examination pulse rate was 140bpm, blood pressure was 80/50 mm of hg, spo2 – 98% respiratory rate of 22/min, hemoglobin level was 10.2 gm /dl.

Per Abdominal Examination- friction abrasion of approximately 10*08cm over left flank with generalised tenderness and guarding present. after giving fluid challenge of 1 lit of IV fluids, injection Tranexamic acid stat dose of 1gm, inj vitamin k 10mg patient's vitals became p-120bpm, blood pressure of 110/80mm of hg.then USG fast and CT abdomen was done

USG Fast -suggestive of mild to moderate free fluid in hepatorenal and lienorenal space.

CT Abdomen -suggestive of non-enhancing geographic area noted in upper and interpolate region of spleen ms 8.1*4.5*7.5cm reaching up to capsule and hilum involving 50% of splenic parenchyma, involvement of segmental vessels producing >25% grade 4 splenic laceration, with mod hemoperitoneum.

Patient was managed by surgical intervention emergency exploratory laparotomy with vertical midline incision extending from epigastrium to midpoint of umbilicus and pubis symphysis and splenectomy was done, intraabdominal warm NS wash given. Intraoperative findings suggestive of 1lit hemoperitoneum with rupture spleen, 1unit of packed red cell given intraoperatively.



Intraoperative Findings