Laparoscopic Repair of a Small Bowel Injury in a Pediatric Male Following Blunt Abdominal Trauma

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Introduction

In recent years, there has been a trend to pursue laparoscopy for both diagnostic and therapeutic purposes in pediatric trauma. While exploratory laparotomy in the setting of hemodynamic instability is standard, minimally invasive surgery has proven its role in hemodynamically stable pediatric patients who sustain blunt abdominal injury. This case highlights a 7-year-old male who was found to have a full-thickness jejunal perforation following motor vehicle accident. He underwent diagnostic laparoscopy with primary repair of his small bowel injury and was discharged on postoperative day five.

Case Description

A 7-year-old male presented to our facility following a motor vehicle accident where he was restrained in the front passenger seat. He did not experience loss of consciousness and airbags deployed. His main complaints upon arrival were nausea, non-bloody emesis, and abdominal pain. Physical exam was significant for tachycardia just above normal limits and mild generalized abdominal tenderness. His initial labs were unremarkable, but computed tomography showed fluid in the pelvis.

Case Description

He was observed for approximately 6 hours while serial abdominal exams were performed. The following morning, his abdominal pain persisted, and his leukocytosis rose to 19,500 from 6,400 upon arrival. Diagnostic laparoscopy was performed and a full thickness jejunal perforation was identified. Laparoscopic primary repair was performed in two layers and the total operative time was just under three hours. His postoperative course was unremarkable and bowel function returned by postoperative day four. He was discharged the following day. Full recovery was noted at two week follow up.

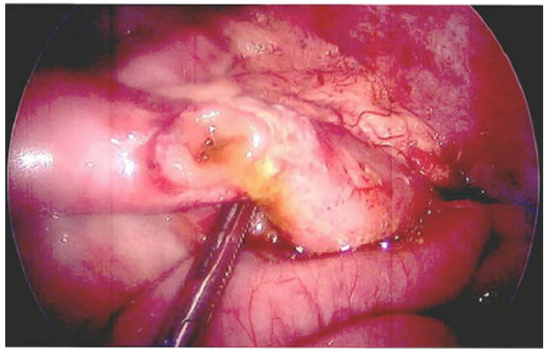


Figure 2. Jejunal injury. A full-thickness jejunal injury was identified approximately 20 cm distal to the ligament of Treitz.

Discussion

Motor vehicle collisions remain the most common cause of death in children and adolescence in the United States. Blunt abdominal trauma is the third most common cause of death in pediatric patients, but the most common unrecognized fatal trauma. Over the last decade, laparoscopy has become an acceptable alternative to laparotomy in the management on traumatic intra-abdominal injuries in pediatrics.

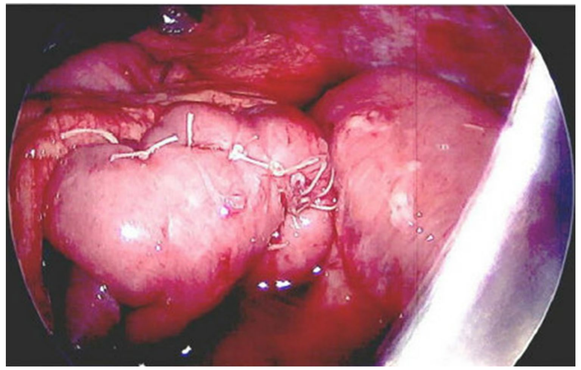


Figure 3. Laparoscopic jejunal repair. Repair was completed with 3-0 Vicryl in a two-layer fashion.

Discussion

When compared to laparotomy, laparoscopy was associated with decreased morbidity, intensive care days, and overall hospital length of stay. Earlier discharge is thought to be secondary to decreased postoperative pain, earlier ambulation, and earlier return of bowel function. In the patient we present, bowel function was obtained by postoperative day four and he was discharged on day five.

Conclusion

Laparoscopy can be used as a safe alternative to laparotomy in hemodynamically stable pediatric patients with suspected small bowel injury secondary to blunt trauma.

References

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