CASE REPORT OF A TRANSVERSE COLON RICHTER HERNIA WITH A BRIEF LITERATURE REVIEW

Kangmin Kim, MD[1]; Matthew Miller BA[1]; Pablo Giuseppucci, MD[2]

[1] The University of Toledo, Toledo, OH; [2] Trumbull Regional Medical Center, Warren, OH

Introduction

We report a clinical case study of a patient with a transverse colon Richter hernia. There are multiple case reports and studies detailing Richter hernia as a rare phenomenon that can have high morbidity[1]. However, due to the increasing utilization of minimally invasive surgery, the incidence of Richter has increased as unclosed port sites allow for part of the bowel to herniate through a small defect[1]. The most common sites of Richter hernia are seen at femoral or inguinal defects[3]. In 4-25% of cases, the hernia is an incisional hernia[1]. It is important to recognize cases of Richter hernia because it has a higher chance of quickly progressing to gangrene than other types of strangulated hernia due to the rapid loss of blood supply to the herniated tissue[2,4].

Case Report

65-year-old obese female with multiple abdominal surgeries in the past presented to the ED with chief complaint of worsening epigastric and RUQ pain radiating to the back. The pain initially started about a year ago, ever since she had an endoscopy performed which showed no significant findings. Previous colonoscopy records could not be obtained. CT abdomen/pelvis two months prior showed ventral hernia without any signs of incarceration. On examination, she had a supraumbilical incarcerated hernia. CT abdomen/pelvis with contrast showed a ventral abdominal wall hernia containing a portion of the transverse colon without evidence of obstruction. The patient was taken to the operating room for a robotic assisted laparoscopic incisional hernia repair with intraperitoneal onlay mesh (IPOM). Diagnostic laparoscopy revealed a midline Richter's ventral hernia with transverse colon. The hernia sac was reduced from the defect which was attached to the transverse colon. The sac was excised from the colon and no bowel was resected. The defect was reapproximated primarily and a 15cm x 15cm uncoated medium weight monofilament polypropylene mesh was fixated to the anterior abdominal wall. The patient tolerated the procedure well without any complications and was discharged on post-op day two.

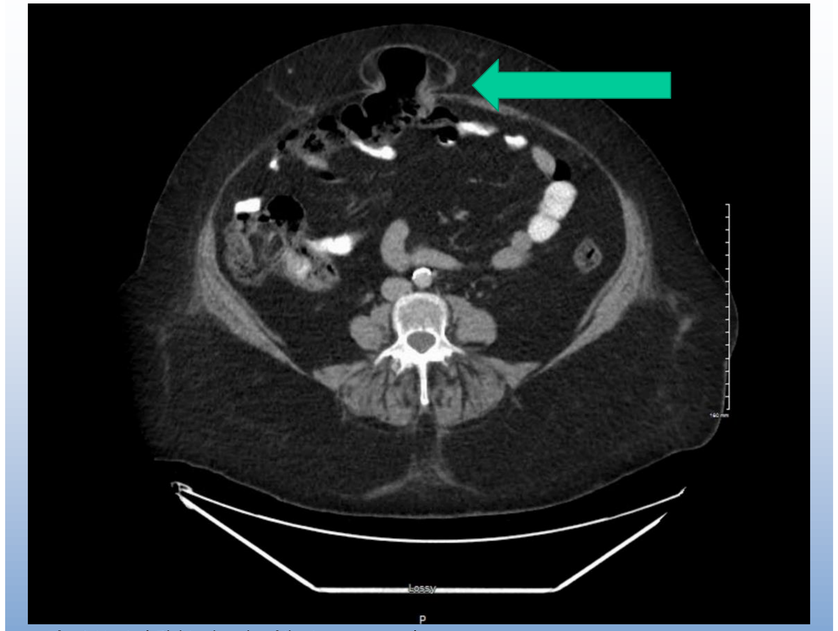


Fig. 1 Ventral Richter hernia of the transverse colon

Conclusion

A Richter hernia is a type of a hernia which only a part of the bowel wall is involved in the hernia defect, usually involving the antimesenteric wall. Most commonly, it involves the femoral canal. As the hernia only affects a portion of the bowel wall, it can rapidly lead to gangrene without signs of intestinal obstruction. Diagnosis of a Richter hernia may require imaging modalities, such as computed tomography. Surgical intervention is needed for complete treatment and bowel resection may be required.

Discussion

The clinical symptoms and presentation of Richter hernia are similar to other hernias, including nausea, vomiting, abdominal pain, and distension. Physical exam can show a palpable mass in the abdomen, although this is variable depending on the size of the hernia[4]. In Richter herniation, there are usually no symptoms of intestinal obstruction because only a small portion of the bowel wall is involved, often, the antimesenteric border, making the diagnosis more challenging. Considering the increase in incidence and high morbidity associated with Richter hernia, it is necessary to consider it as part of the differential diagnosis, which can also include abdominal abscess, diverticulitis, intestinal ileus and strangulated hernia of complete bowel. Computed tomography (CT) scan can confirm diagnosis and identify complications before surgery and is the preferred imaging modality due to its rapid availability and quick results[4]. Surgical exploration is definitive diagnosis[4].

Risk factors for hernia and recurrence of hernia include: high BMI, heavy lifting, smoking, and diabetes[3]. Additionally, to reduce the incidence of Richter hernia, attention must be paid to the closure of port sites during the operation and in the postoperative period to ensure the sites have healed.

Treatment and prevention of Richter hernia depends on the patient's status and whether the hernia is incarcerated. Patients with reducible Richter hernias without strangulation can undergo elective non-emergent repair, while strangulated Richter hernia are a surgical emergency. Repair of a Richter hernia typically uses a pre-peritoneal approach with a laparotomy and resection of the incarcerated bowel[5]. Mesh placement, although commonplace for other types of hernias, is controversial in Richter hernia due to the presence of strangulated bowel[1, 4].

References

1. Regelsberger-Alvarez CM, Pfeifer C: Richter hernia. StatPearls [Internet]. StatPearls Publishing, Treasure Island, FL; 2021.
2. Steinke W, Zellweger R. Richter's hernia and Sir Frederick Treves: an original clinical experience, review, and historical overview. Ann Surg 2000;232:710–8
3. Agrawal S, Daruwala C. Richter's hernia. Clinical Imaging, 2013-05-01, Volume 37, Issue 3
4. Abdourahmane Ndong, et al. Ventral midline incisional Richter's hernia: A case report. International Journal of Surgery Open, Volume 40, 2022, 100458, ISSN 2405-8572
5. Schmuter G, Narula N, Mukherjee I (August 07, 2021) Rare Presentation of Incarcerated Incisional Richter's Hernia of the Cecum. Cureus 13(8): e16971. doi:10.7759/cureus.16971