

Retrocecal hernia successfully treated with laparoscopic surgery: A case report and literature review of 15 cases in Japan

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ABSTRACT

INTRODUCTION: Retrocecal hernia is rare and involves strangulation ileus, and therefore, frequently requires emergency surgery following conservative therapy.

PRESENTATION OF CASE: We report an interesting case of a retrocecal hernia in a 65-year-old man, with a history of diabetes mellitus. The patient was admitted to our hospital with severe periumbilical pain and nausea. Abdominal computed tomography revealed an intestinal obstruction at a pericecal site, and dilatation of the small bowel at the oral side of the obstruction. The patient was initially treated with conservative therapy using long intestinal tube placement. On the 12th hospital day, the patient's symptoms had not resolved, and laparoscopic surgery was performed. We diagnosed a retrocecal hernia based on laparoscopic findings and repaired it. The patient was discharged without complications on the 7th postoperative day.

DISCUSSION AND CONCLUSION: Using laparoscopic exploration and suturing, we were able to perform a minimally invasive operation that may have promoted an earlier hospital discharge.

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1. Introduction

Retrocecal hernia, a type of paracecal hernia, is rare. Retrocecal hernia involves strangulation ileus, and therefore, frequently requires emergency surgery following conservative therapy. To our knowledge, only 16 cases of retrocecal hernia, including our case, have been reported in Japan from 2000 to 2014. Here, we report a case of retrocecal hernia treated by laparoscopic surgery and review the characteristics and treatment of retrocecal hernia patients from the literature.

2. Case report

The patient was a 65-year-old man with a history of diabetes mellitus. He complained of periumbilical pain and nausea 9 h prior to arriving at the hospital and described his right lower abdominal pain as intermittent. The patient had no surgical history and his history of tobacco and alcohol use was unknown. There was no history of allergic disease. On physical examination, the patient was afebrile with a blood pressure of 153/96 mm Hg and a pulse rate of 123 bpm. Abdominal examination revealed no signs of abdom-

inal trauma or a previous surgical scar. There was tenderness at the right lower abdomen. Blood tests revealed no abnormalities except an abnormal white blood cell count of 16,000/mm³. Small bowel dilatation was evident on abdominal radiography. Abdominal computed tomography (CT) revealed an intestinal obstruction at a retrocecal site and dilatation of the small bowel at the oral side of the obstruction (Fig. 1). However, there were no signs of small bowel ischemia, such as ascites or an edematous bowel wall. Therefore, the patient was diagnosed with an internal hernia and treated conservatively using long intestinal tube placement. On the 6th hospital day, his abdominal symptoms resolved and the long intestinal tube was removed. However, on the 7th hospital day, the abdominal pain recurred and CT revealed an intestinal obstruction at a retrocecal as on the admission day. The long intestinal tube was then placed into his dilated small bowel, which failed to resolve the symptoms. On the 12th hospital day, laparoscopic surgery was performed to explore the cause of the internal hernia and treat his ileus. During the operation, a portion of the ileum was found to be incarcerated in the retrocecal cavity and the patient was diagnosed with retrocecal hernia (Fig. 2A). The incarcerated ileum was reducible and viable, and the orifice of the retrocecal hernia was sutured with an absorbable surgical suture and closed (Fig. 2B). After surgery, no specific complications developed. On the 7th postoperative day, the patient was discharged from the hospital. As of 12 months after surgery, the patient had no recurrent intestinal obstruction.

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Fig. 1. Computed tomography image shows dilation of the small intestine. The arrow denotes the location at which a small intestinal caliber change is seen around the cecum.

3. Discussion

Paracecal hernia, a type of internal hernia, causes ileus in 1% of cases with the disorder [1]. Peritoneal recesses associated with hernia occurrence around the cecum are classified into 4 types: paracecal hernia, retrocecal (postcecal) hernia, pericecal hernia, and ileocecal hernia [2]. In our case, an internal hernia occurred within a retrocecal hernia. Hirokawa et al. [3] reported that paracecal hernia was the most common type, accounting for 46.7% of cases, followed by retrocecal hernia, which accounts for 26.7% of cases.

Pathogenesis of paracecal hernia is considered to include intestinal malrotation during embryonic development [2]. The anatomy of the paracecal peritoneum is attributed to ileocecal migration that occurs during intestinal rotation of the midgut. The definitive pattern is attained after arrival of the cecum in the right iliac fossa and after fusion and resorption of the peritoneal surface, which have come into apposition toward the end of the rotational process [3].

We searched PubMed and Ichushi Webs for reports containing the key words “retrocecal and/or postcecal hernia.” Only 16 cases from Japan have been reported in the literature including our case [2,4–16] (Table 1). The median patient age was 76 years (range 48–100 years) and the male/female ratio was 7:9. Twelve cases had no history of abdominal surgery; and only two cases had a history of appendectomy. Therefore; we consider appendectomy to be rarely related to retrocecal hernia. Eight cases were diagnosed with paracecal or postcecal hernia by preoperative radiological examinations. The other 8 cases were diagnosed with internal hernia of no

specific origin or with appendicitis. This type of hernia seems to be often misdiagnosed preoperatively because it has no specific symptoms without intestinal obstruction and it is not widely known. All cases shown in Table 1 underwent surgery and small bowel resection was performed in 5 cases. Therefore; according to these data; surgery should be performed quickly if small bowel strangulation is suspected. From above results; we reflect that we should perform laparoscopic surgery in the earlier time than the 12th hospital day.

The operation for intestinal obstruction is usually performed with a wide incision at the surgical site. However, recent reports have described the laparoscopic management of acute small bowel obstruction, which resulted in early return of bowel function and reduced postoperative stay [17]. As shown in Table 1, similar to our report, 3 reports described cases of retrocecal hernia treated by laparoscopic surgery [7,11,13]. In our case, we performed laparoscopic surgery to survey the hernia site, and based on our findings, we appropriately diagnosed the retrocecal hernia and were able to repair it by suturing the orifice. Sato et al. [7] were the first to describe that suturing the orifice and releasing the small bowel obstruction due to retrocecal hernia can be successfully accomplished by laparoscopic management, and their case was discharged at 9 days postoperatively. Interestingly, similar to our present report, they supposed that the preoperative treatment of dilated small bowel using the long intestinal tube was important for safe laparoscopic management.

This report describes the fourth case of a retrocecal hernia treated by laparoscopic surgery and the second case that was repaired by suturing the orifice.

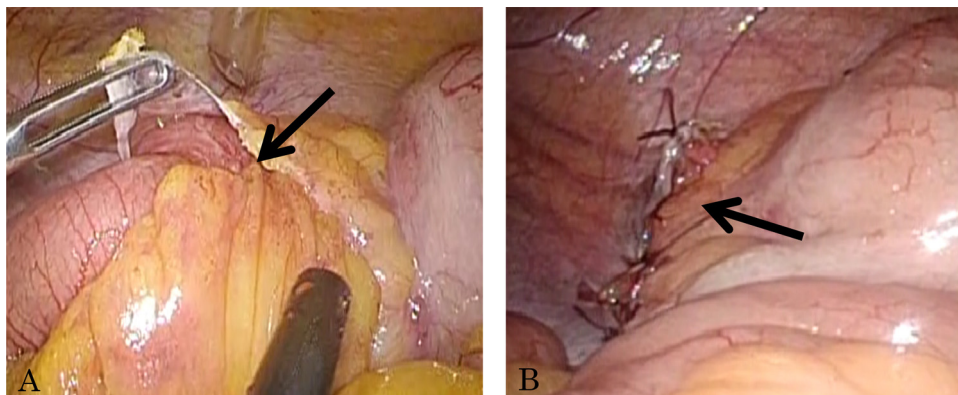


Fig. 2. Intraoperative findings reveal incarceration of the ileum in the retrocecal fossa (arrow, A). The orifice of the retrocecal hernia is sutured with an absorbable surgical suture and closed (arrow, B).

Table 1

Literature review of retrocecal hernia cases in Japan between 2000 and 2014.

Case no.	Reference	Age	Sex	History of abdominal surgery	Preoperative diagnosis	Operation: open or laparotomy	Resection of the small bowel	Treatment of the hernia orifice
1.	Imai et al. [4]	86	M	None	Internal hernia	+	Open	Closure
2.	Shiba et al. [5]	87	F	Appendectomy	Postcecal hernia	None	Open	Open
3.	Suzuki et al. [6]	84	F	None	Obturator hernia	+	Open	Open
4.	Shibuya et al. [2]	63	M	None	Strangulated hernia	None	Open	Closure
5.	Sato et al. [7]	76	M	None	Postcecal hernia	+	Laparotomy	Closure
6.	Saito et al. [8]	100	M	None	Paracecal hernia	None	Open	Open
7.	Mukai et al. [9]	99	F	Hysterectomy	Postcecal hernia	+	Open	Unknown
8.	Ushida et al. [10]	92	F	None	Postcecal hernia	None	Open	Closure
9.	Mitsui et al. [11]	50	F	Appendectomy	Adhesive hernia	+	Laparotomy	Open
10.	Ohishi et al. [12]	89	F	None	Postcecal hernia	None	Open	Open
11.	Ohishi et al. [12]	59	M	None	Postcecal hernia	None	Open	Closure
12.	Sakai et al. [13]	75	F	None	Internal hernia	+	Laparotomy	Open
13.	Suzuki et al. [14]	68	M	Common bile duct exploration	Strangulated hernia	None	Open	Open
14.	Kaneko et al. [15]	84	F	None	Paracecal hernia	+	Open	Closure
15.	Ito et al. [16]	48	F	None	Appendicitis	None	Open ^a	Open
16.	Our case	65	M	None	Internal hernia	+	Laparotomy	Closure

^a Reoperation for internal hernia was performed 3 days after appendectomy.

4. Conclusion

Thus, we present a rare case of retrocecal hernia and suggest that laparoscopic exploration and suturing could be useful for the diagnosis and treatment of bowel obstruction at a paracecal site.

Competing interests

None declared.

Consent

Written informed consent was obtained from the patient for publication of this case and any accompanying images.

Funding

None.

Ethical approval

Because of the case report, the ethics committee was not held.

Authors' contributions

K.S. conceived of this case presentation and drafted the manuscript. H.K., H.A., H.N., and F.Y. participated in the treatment of this case. All authors read and approved the final manuscript.

Guarantor

Kazuhiro Sasaki accepts the full responsibility for the article.

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