Case Report

A Case of Sigmoid Colon Cancer Prolapsed Through the Anus in a Young Woman

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Introduction: Intussusception in which colon cancer acts as a lead point has been previously reported in a number of cases, but prolapse of the tumor through the anus has rarely been reported, and most of those few previous reports have involved elderly individuals.

Case presentation: The patient in this case was a 26-year-old Japanese woman who presented to our emergency department with severe pain after her intestinal tract prolapsed through the anus during defecation. The intussusception was released laparoscopically, and we were able to perform complete mesocolic excision in a manner similar to conventional laparoscopic sigmoidectomy for sigmoid colon cancer prolapse through the anus in a young woman. Because liver metastases were identified on computed tomography, the patient underwent partial hepatectomy twice.

Conclusion: The patient has been followed up for 8 years since the initial surgery and remains alive without recurrence.

Key words: Intussusception – Colon cancer – Laparoscopy – Complete mesocolic excision – Prolapse

Only a small number of reports have described intussusceptions in which sigmoid colon cancer acted as a lead point, and reports of prolapse of such a tumor through the anus are extremely rare. Where most such previous reports have involved elderly individuals, this report describes the case of a very young woman. No previous reports have involved young women in their twenties. We were able to perform laparoscopic complete mesocolic excision (CME) for sigmoid colon cancer that had...
prolapsed through the anus. This study was conducted with the approval of the ethics committee at Tokyo Medical University (approval No. T2019-0054).

Case Presentation

The patient was a 26-year-old Japanese woman who presented to our emergency department with severe anal pain after the intestinal tract prolapsed through the anus after defecation. She had no significant personal or family medical history. She had no history of pregnancy. The patient did not meet the Amsterdam II criteria or revised Bethesda guidelines.

On admission, the intestinal tract was found to have prolapsed by approximately 10 cm (Fig. 1a). A tumor (4 cm in diameter) was present in the lumen of the intestinal tract (Fig. 1b). We diagnosed intussusception, with the colorectal tumor acting as the lead point, and prolapse of the intestinal tract. Biopsy was performed under direct visualization at the lead point, and the tumor was diagnosed as differentiated adenocarcinoma.

Because of the strong tension on the sphincter and severe pain, the prolapse was not able to be manually reduced in the outpatient department. Spinal anesthesia was used to relax the sphincter, allowing manual reduction.

Endoscopy (Fig. 2a) and contrast radiography of the lower gastrointestinal tract (Fig. 2b) performed on day 2 demonstrated a type 1 tumor in the sigmoid colon, approximately 40 cm from the anal verge. In addition, mild redness and edema were observed in the mucosa of the sigmoid colon between the tumor and anus. No other abnormal findings were observed. Contrast-enhanced computed tomography of the thoracoabdominal and pelvic regions revealed tumor in the sigmoid colon and no signs of possible lymph node or distant metastases (Fig. 3).

The intestinal prolapse continued to recur. The second instance of prolapse was amenable to reduction without anesthesia. However, because the prolapse recurred a total of 4 times in 3 days, semiurgent surgery was performed. During the preoperative course, the intestinal tract was not significantly dilated, and no ileus was observed.

On day 4, the patient underwent laparoscopic sigmoidectomy. We performed CME in which the inferior mesenteric artery was ligated and resected at its root and the inferior mesenteric vein was also ligated and resected at the same level, as well as D3 lymph node dissection. Sigmoid intussusception was also observed intraoperatively (Fig. 4) but was released laparoscopically after the blood vessels were ligated and resected, and we were able to perform CME in a fashion similar to that of conventional laparoscopic sigmoidectomy. No intraoperative complications were encountered. The operative time was 206 minutes, and blood loss was 30 g. No postoperative complications occurred, and the patient recovered uneventfully and was discharged on day 12.

We histopathologically diagnosed the 50 × 45-cm lesion as tub2> tub1, T3 (SS), ly1, v2, N0 (0/78) according to the Japanese Classification of Colorectal Carcinoma. Finally, the tumor was diagnosed as...
T3N0M0, stage IIA, according to the 8th edition of the International Union Against Cancer TNM classification (Fig. 5).

Although we explained the merits of genetic testing for genes associated with Lynch syndrome, the patient declined.

The patient received adjuvant chemotherapy with oral tegafur/uracil and leucovorin for 6 months after surgery according to the Japanese Society for Cancer of the Colon and Rectum Guidelines.2

Because 2 liver metastases were found on computed tomography in S7 14 months after the initial surgery, the patient underwent partial hepatectomy for curative resection. Following the surgery, the patient received a total of 9 cycles of modified FOLFOX6 as adjuvant chemotherapy. Because another 2 metastases in the liver were found by computed tomography in S7 and S8 at 24 months after the initial surgery, the patient once again underwent partial hepatectomy with curative resection.

The patient has been followed up without chemotherapy. Eight years have passed since the initial surgery, and the patient remains alive without recurrence.

Discussion

Although intussusceptions in children are commonly idiopathic, malignant tumors have been shown to act as the lead point in more than 60% of intussusceptions in adults.3 However, only a few reports have described intussusceptions in which
sigmoid colon cancer acted as a lead point,\textsuperscript{4–9} and reports of prolapse of the tumor through the anus are extremely rare.\textsuperscript{6,9}

Compared with the patients in those reports, our patient developed intussusception at a very young age. Although we suspected Lynch syndrome because of the young age at onset, she did not meet the Amsterdam II criteria or revised Bethesda guidelines. The patient was therefore unlikely to have Lynch syndrome. We explained the risks and benefits of undergoing testing for genes associated with Lynch syndrome, but the patient did not desire testing.

Several reports have shown that minimally invasive laparoscopic surgery is appropriate for intussusceptions caused by benign tumors.\textsuperscript{10,11} However, laparotomy has previously been shown to be more appropriate for cases caused by malignant disease and those with significant dilatation of the intestinal tract. Consensus on the optimal surgical approach therefore remains lacking. Laparotomy may be useful in cases of nondecompressed bowel obstruction,\textsuperscript{6} but less-invasive laparoscopic surgery may be useful in other cases.

Because our patient did not present with complicated ileus and no intestinal tract dilatation was observed, we elected to perform laparoscopic surgery. We have previously reported that CME with D3 lymph node dissection is a useful surgical procedure for advanced colon cancer.\textsuperscript{12,13} Although the intussusception needed to be released laparoscopically, we were able to perform CME in a manner similar to conventional laparoscopic sigmoidectomy.

Conclusion

We were able to perform laparoscopic CME for sigmoid colon cancer that prolapsed through the anus in a young woman. The patient has been followed up for 8 years since the initial surgery and remains alive without recurrence.

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Fig. 4  Sigmoid intussusception is also observed intraoperatively.

Fig. 5  Macroscopic appearance (a) and microscopic findings (b) of a section of the resected sigmoid colon. We histopathologically diagnosed the $50 \times 45$-cm lesion as tub2$>$tub1, T3 (SS), ly1, v2, N0 (0/78) according to the 8th edition of the Japanese Classification of Colorectal Carcinoma.
for-profit sectors. The authors of this case report have no financial or ethical conflicts to disclose. There is no funding to report for this submission.

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