

Laparoscopic segmental resection of the rectum for upper rectal intussusception caused by a giant rectal lipoma

A case report

Ran Wei, MR^b, Wei Xu, MD, PhD^a, Yuhong Xiao, MS^a, Fei Zeng, MD^a, Shengxun Mao, MD^{a,*}

Abstract

Rationale: Colonic lipomas are rare benign tumours, usually without any symptoms, and most occur in the caecum and ascending colon. We describe a patient with upper rectal intussusception caused by a giant rectal lipoma; no similar report of this type of case has been published.

Patient concerns: We report the case of a patient who suffered from repeated bloody stools. A wide pedicle polyp (size, 6.5 × 4.5 × 3.5 cm) was detected at the 15th centimetre of the anal canal via an electronic colonoscope. At the initial part of the rectum, intussusception caused by a 6.5-cm fat-density mass was observed via abdominal contrast-enhanced computed tomography.

Diagnosis: Upper rectal intussusception caused by a giant rectal lipoma.

Interventions: Due to the large size of the polyp, an endoscopic polypectomy could not be performed. We performed laparoscopic segmental resection of the rectum (with preservation of the left colic artery [LCA]).

Outcomes: The patient was discharged on the 7th postoperative day without any complications, was monitored on a regular basis at our outpatient department and was free of symptoms at a 3-month follow-up visit.

Lessons: Laparoscopic segmental resection of the rectum with LCA preservation is safe and feasible for the treatment of upper rectal intussusception caused by a giant rectal lipoma.

Abbreviations: CT = computed tomography, EUS = endoscopic ultrasonography, LCA = left colic artery.

Keywords: giant rectal lipoma, laparoscopic segmental resection, left colic artery, rectal intussusception

1. Introduction

Colonic lipomas are extremely uncommon benign tumours that have a high probability of being asymptomatic. However, when colonic lipomas are >2 cm, they may present symptoms such as constipation, abdominal pain, bleeding via the rectum, and intussusception.^[1,2] The most common sites of colonic lipomas

are the ascending colon and the caecum, and occurrence in other parts of the colon and rectum is rare.^[3] In this case report, we describe a giant rectal lipoma that caused upper rectal intussusception, and we discuss our management and the outcome.

2. Methods

Informed consent was obtained from the patient for the publication of this case report. The study was approved by the Research Ethics Committee of the Second Affiliated Hospital of Nanchang University.

3. Case presentation

A 61-year-old female presented with intermittent pelvic pain and repeated bloody stools. A physical examination showed no specific finding except for pale conjunctivae. An anal examination allowed palpation of only the lower edge of the mass, at 8 cm from the edge of the anus. A laboratory investigation revealed iron deficiency anaemia. A faecal occult blood test was positive. A colonoscopy revealed an approximately 6.5-cm-diameter polypoid mass with a thick stalk, an irregular lobulated margin, and small ulcers at the peak and easily induced contact bleeding at the rectosigmoid junction (Fig. 1). Two biopsies were conducted, and the results were non-diagnostic. An abdominal contrast-enhanced computed tomography (CT) scan showed an intussuscepted lesion located in the upper rectum: a fat-containing soft

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The authors have no conflicts of interest to disclose.

^a Department of General Surgery, The Second Affiliated Hospital of Nanchang University, ^b The First Clinical Medical College, Nanchang University, Nanchang, Jiangxi, China.

* Correspondence: Shengxun Mao, Department of General Surgery, The Second Affiliated Hospital of Nanchang University (e-mail: maoshengxun@126.com).

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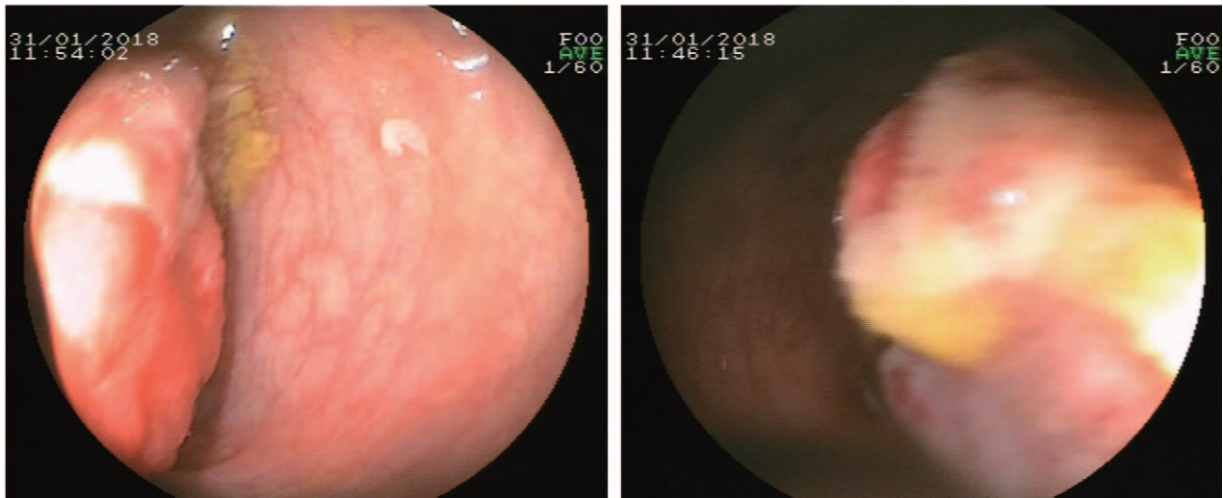


Figure 1. A colonoscopy revealed an approximately 6.5-cm-diameter polypoid mass with a thick stalk at the rectosigmoid junction.

tissue mass in the rectum that measured 6.5 cm in the maximum dimension (Fig. 2). A diagnosis of upper rectal intussusception caused by a giant rectal lipoma was established based on these characteristic imaging findings. Due to the large size of the polypoid mass, an endoscopic polypectomy could not be performed. The patient subsequently underwent laparoscopic segmental resection of the rectum with left colic artery (LCA) preservation. The patient was discharged on the 7th postoperative day without complications (Fig. 3). Additionally, the patient

was followed for 6 months without any obvious relapse of the colonic lipomas.

4. Discussion

Large intestinal lipomas are reported with an incidence ranging between 0.035% and 4.4% and are the third most common benign tumour of the colon, following hyperplastic and adenomatous polyps.^[4] The most frequent type of colonic

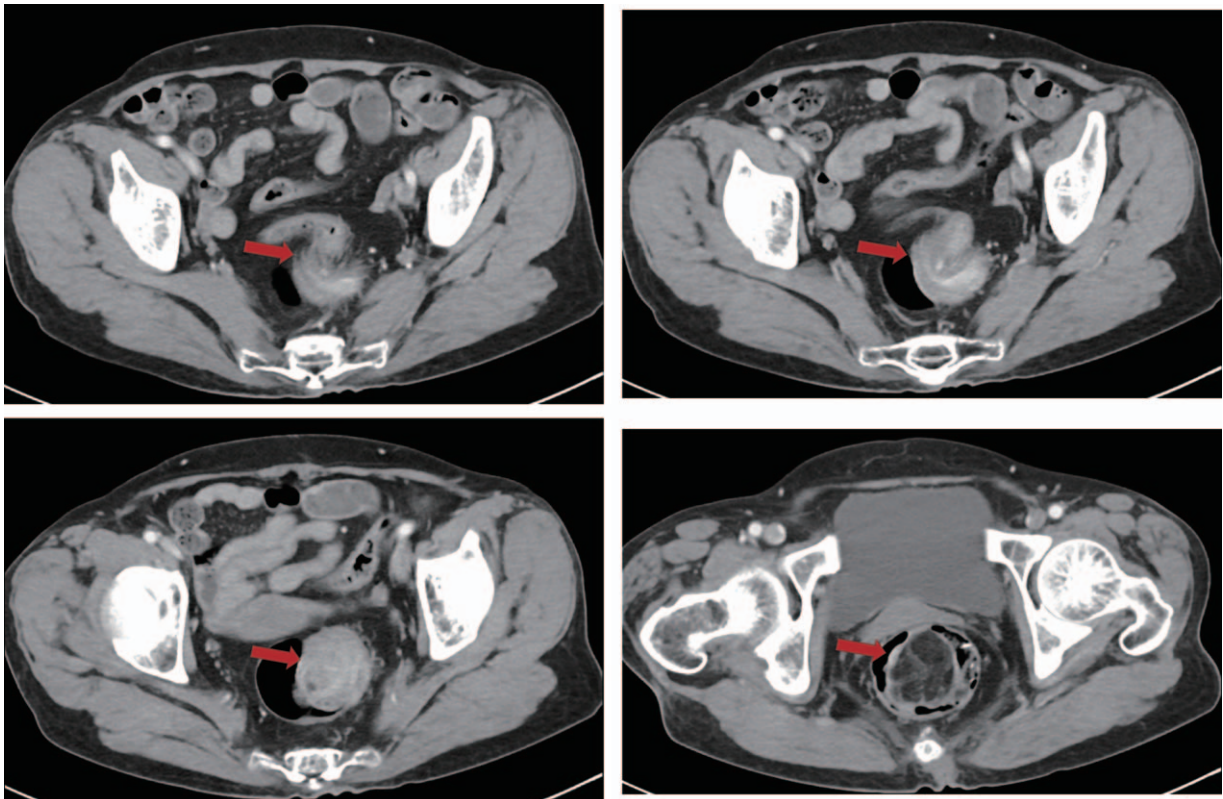


Figure 2. An abdominal contrast-enhanced CT scan showed an intussuscepted lesion located in the upper rectum: a fat-containing soft tissue mass in the rectum that measured 6.5 cm in the maximum dimension (arrow). CT=computed tomography.



Figure 3. The resected specimen, with a 3.0-cm stalk and 6.5 × 4.5 cm in size.

lipoma is submucosal; the remaining are located in the subserosal or intramucosal layers. Most colonic lipomas, which typically occur in fifty- to sixty-year-old women, occur as single lesions, but multiple lipomas are noted in 10% to 20% of cases. Specifically, lipomas of the colon are predominantly localized in the ascending colon, followed by the descending, sigmoid and transverse colon; however, they are rarely reported in the rectum.^[5]

Large lesions are associated with different types of symptoms, and colonic intussusception is not a common symptom. Intussusception accounts for only 1% of all bowel obstructions in the adult population, and previous reports confirm that most cases of adult intussusception have an identifiable pathological cause.^[6] Less than 80 cases of adult colonic intussusception induced by a lipoma have been reported, and rectal intussusception has rarely been reported in the English-language literature.^[7] We first report a case of upper rectal intussusception caused by a giant rectal lipoma, while only 3 giant rectal lipoma cases have been reported.^[8–10]

Some methods have been proposed for preoperative diagnosis, which is significant for planning. Abdominal or pelvic ultrasound and barium enema play a limited role in the diagnosis of lipoma, and their specificity is very poor. Typical colonoscopic features of lipomas include a smooth, yellowish surface with a pedunculated or sessile base. These lipomas can be covered by normal mucosa, but they can also show ulcerated or necrotic overlying mucosa, as shown in this case, and they are difficult to distinguish from malignant tumours.^[11] Experienced endoscopists may note other endoscopic characteristics of lipomas, such as the “cushion sign” and the “naked fat sign”.^[12] Endoscopic ultrasonography (EUS) may improve diagnostic accuracy by determining the size, border, homogeneity, and layer of origin of these colonic submucosal lesions.^[13] Colonoscopic biopsy with inadequate tissue samples often indicates nonspecific colitis with mucosal inflammation. In our case, a colonoscopy revealed an approximately 6.5-cm-diameter polypoid mass with a thick stalk, an irregular lobulated margin, and small ulcers at the peak and easily induced contact bleeding at the rectosigmoid junction. Two biopsies were conducted and the results were non-diagnostic, demonstrating the difficulty of distinguishing these masses from malignant tumours.

CT scanning is the most useful tool for the detection of these lesions, especially in the case of intussusception with a giant lipoma, and has 70% to 80% sensitivity and near 100% specificity.^[3,13] Lipomas, with an absorption density of –40 to –120 Hounsfield units, appear with fat-equivalent density, a near-ovoid shape, and smooth margins. However, intussuscepted

lipomas may have a heterogeneous appearance, reflecting the degree of infarction and fat necrosis.^[3,14] CT scanning is visibly useful to detect lipomas larger than 2 cm. However, the diagnostic value of CT is low for small lipomas. In fact, the diagnostic value of CT scanning is limited by the size and volume of the lesion. Magnetic resonance imaging (MRI) may be particularly useful because the signal intensity is characteristic of adipose tissue on T1-weighted and fat-suppressing images.^[12] Despite recent diagnostic innovations, the preoperative diagnostic accuracy of lipomas is only approximately 62%.^[14] An exact diagnosis relies primarily on an intra- or postoperative pathology examination of surgical specimens. For this patient, diagnosis was easy because a huge fat-containing soft tissue mass was evident on a CT scan.

Colonic lipomas are unlikely to be malignant, and small asymptomatic lipomas (less than 2 cm) may not require additional treatment if the biopsy demonstrates a lipoma. A recent study indicated that a colonic lipoma has a high probability of transitioning from an asymptomatic to a symptomatic state, and this process can occur within a few years.^[15] Hence, these patients require frequent endoscopic follow-up. Once the lipoma reaches 2 cm, endoscopic resection is necessary, but the risk of complications is low.^[16] Some studies have reported that the removal of lipomas ≥2 cm in diameter is associated with a greater risk of perforation and bleeding.^[17]

Nevertheless, some reports demonstrate that removal is a safe and effective option and that giant lipomas can be removed by endoclipping or endoloop ligation by a skilled endoscopic surgeon.^[10] Based on our case and the published literature, we recommend that surgical resection is a reasonable treatment for symptomatic large lipomas, especially those with intussusception. Intussusception remains a rare complication of lipomas. A recent study indicated that the size of the lipoma is an essential factor for colonic intussusception, and lipomas of less than 4 cm were found in an intussusception patient.^[11] If a colonic lipoma with intussusception is diagnosed before surgery, laparoscopic segmental resection is an adequate treatment because laparoscopic surgery results in a shorter period of illness and disability, less postoperative pain, and a shorter hospital stay and recovery period.^[18] Upper rectal intussusception caused by a giant rectal lipoma is rarely reported; in our case, laparoscopic segmental resection of the rectum with the preservation of the LCA was performed successfully. Some authors have reported that by protecting the LCA, the blood supply to the remaining sigmoid colon is increased, and the related risk of anastomotic leakage due to ischaemia is reduced.^[19] The limitation of this study is that our hospital did not perform an EUS examination, which can provide a more definitive diagnosis by determining the size, border,

homogeneity and layer of origin of these colonic submucosal lesions.

5. Conclusion

Laparoscopic segmental resection of the rectum with preservation of the LCA is a safe and feasible technique for the treatment of upper rectal intussusception caused by a giant rectal lipoma. If complete removal of the colonic lipoma is achieved with endoscopic resection or surgical resection, the prognosis will be excellent. In the future, we may try to perform surgery using colonoscopy and laparoscopy when the preoperative diagnosis is almost certainly rectal lipoma. If colorectal perforation and bleeding had occurred during colonoscopic resection (endoscopic submucosal dissection or endoscopic mucosal resection), the surgeon could perform laparoscopic suturing and placement of an abdominal drainage tube to ensure that the operation is completed smoothly with a low probability of surgical complications.

Author contributions

Conceptualization: Shengxun Mao.

Data curation: Ran Wei, Shengxun Mao.

Investigation: Ran Wei, Wei Xu, Yuhong Xiao.

Methodology: Fei Zeng.

Resources: Shengxun Mao.

Software: Ran Wei, Wei Xu, Yuhong Xiao.

Writing-original draft: Wei Xu.

Writing-review and editing: Wei Xu, Ran Wei, Yuhong Xiao.

Conceptualization: wei xu.

Data curation: fei zeng.

Investigation: yuhong xiao.

Writing – original draft: ran wei.

Writing – review & editing: Shengxun Mao.

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