

Case Report

A Colonic Submucosal Giant Lipoma Presenting with Intermittent Intussusception and Bleeding – A Case Report and Review of the Literature

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Colonic lipoma with intussusception is rare. We report a case of colonic intussusception induced by a submucosal lipoma. A 51-year-old woman was diagnosed with colonic lipoma with suspected malignancy and gallstone. Definite diagnosis was made after laparoscopic extended right hemicolectomy and cholecystectomy. Clinical and pathologic features of colonic lipoma are then discussed.

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Key Words

Colonic lipoma;
Intussusception;
Laparoscopy

To our knowledge, the earliest report of submucosal lipoma was in the 1930's. Comfort reported 28 cases of submucosal lipoma at Mayo Clinic.¹ Submucosal lipoma is the second most common benign tumor of the colon, with most colonic lipomas being asymptomatic.² Larger lipomas are likely to cause symptoms, such as bleeding, obstruction, and intussusception. Unlike child intussusception, in adults the symptoms are usually chronic, intermittent abdominal pain.³ The symptoms of adult intussusception lack a typical presentation.⁴ About 90% of adult intussusception has an underlying patho-

logic process, and most cases are not responsive to barium enema reduction.^{3,5} Because of the high risk of malignancy, surgery remains the primary management strategy. There are relatively few reports about laparoscopic surgery for intussusception.

Case Report

A 51-year-old female suffered from intermittent abdominal pain throughout the periumbilical area for 8 months with each episode persisting about 30

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minutes. The pain was relieved by defecation, but was not related to mealtime. There was no associated vomiting, fever, bloody stool, or loss of body weight. Endoscopic ultrasonography revealed one large submucosal tumor (over 3 cm in diameter) with edematous overlying mucosa over the hepatic flexure (Figs. 1A, B). The tumor originated from the muscularis propria with mixed echoic texture, and leiomyosarcoma or stromal tumor was impressed. Under the impression of colonic malignancy, CT scan was arranged for preoperative evaluation. CT scan revealed focal wall thickening near the hepatic flexure

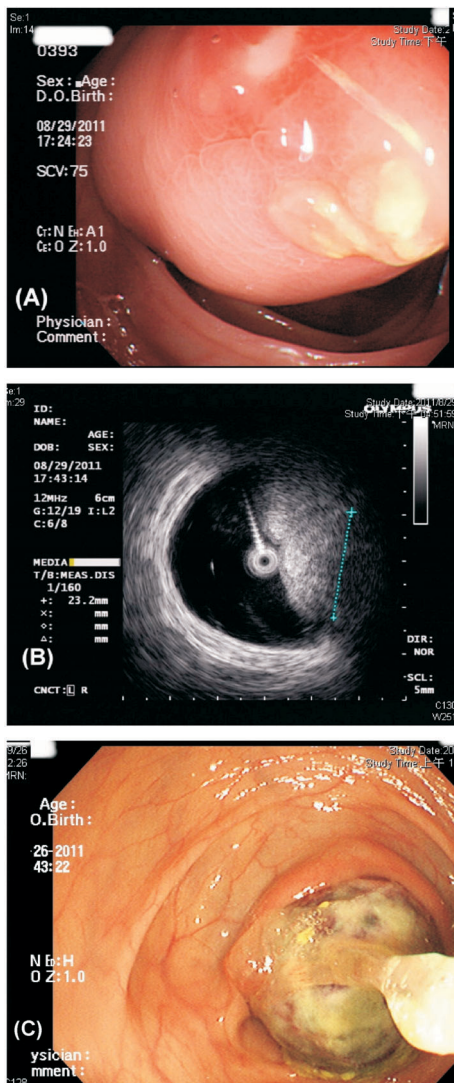


Fig. 1. The patient underwent colonoscopy twice. The first colonoscopy revealed one large submucosal tumor (A), while endoscopic ultrasonography showed one mixed-echoic tumor (B). The second colonoscopy showed a polypoid, movable, necrotic tumor (C).

with a nearby 3.8-cm lipoma. Gallstones with suspected cholecystopathy were also observed (Fig. 2). Although no metastases were detected, malignant colon tumor still couldn't be ruled out by this image study alone. LGI series showed an ovoid mass at the mesenteric site of the proximal transverse colon (Fig. 3). Lipoma or leiomyosarcoma were suspected initially.

During the interval between visits to the outpa-



Fig. 2. CT scan (coronal view) revealed cholelithiasis, and hepatic flexure colonic wall thickening with a nearby lipoma.



Fig. 3. LGI series revealed an ovoid mass at the mesenteric site of the proximal transverse colon, near the hepatic flexure.

tient department, progressive abdominal cramping pain developed one week prior to the patient's ER visit. Concomitant bloody stool was also noted for 3 days. No toxic signs were noted, and the Murphy sign was equivocal. Moderate tenderness was found over the periumbilical area. Plain abdomen film revealed prominent gas accumulation over the ascending colon. Bloody stool subsided after conservative management including intravenous fluid hydration. The CEA level was 0.85 ng/mL. The patient had a history of Caesarean section 15 years prior, and her aunt was a victim of colon cancer diagnosed at middle age.

Repeated colonoscopy was arranged for biopsy and survey of bleeding. This time, colonoscopy showed a polypoid, movable tumor over the hepatic flexure. However, it was 5 cm in size with necrotic change (Fig. 1C). Biopsy showed only necrotic debris with acute and chronic inflammation. Under the suspicion of malignant colon tumor with obstruction and intermittent bleeding, surgical intervention was arranged. Laparoscopic extended right hemicolectomy was undertaken for fear of malignancy with concomitant ischemia. Laparoscopic cholecystectomy was also done at the same time. The patient's post-operative course was smooth, and she was discharged one week after laparoscopic surgery.

During laparoscopic surgery, a huge tumor over the hepatic flexure with adjacent omentum adhesion was found. Under the impression of locally advanced malignant colon tumor over the hepatic flexure, extended right hemicolectomy was undertaken. A 18 cm long segment of colon and the adjacent 4 cm long segment of the terminal ileum were removed. When the

surgical specimen was opened, a huge, pedunculated, ovoid, submucosal tumor with mucosal necrosis over the distal ascending colon was found. Concurrent colocolonic intussusception was also found, with the submucosal tumor the leading point of colocolonic intussusception. Pathology examination revealed a 4.5-cm polypoid mass. The cut surface showed a circumscribed, greasy, and golden nodule in the submucosal layer. Microscopically, mature adipose cells were surrounded by fibrotic septum in the submucosal layer. The adjacent mucosa was firm and erotic. Chronic inflammation and granulation tissue were also found (Fig. 4). Forty lymph nodes without malignancy were harvested. The gallbladder specimen showed lithiasis and chronic cholecystitis.

Discussion

Submucosal lipoma is the 2nd most common benign colonic tumor after adenoma.² The reported incidence ranges from 0.035% to 4.4%.^{6,7} However, colonic lipomas seldom induce symptoms. About 90% of colonic lipomas come from the submucosa, and most are located in the right side colon.⁸ Their sizes range from 0.5 cm to 10 cm. Most lipomas are asymptomatic. Larger lipomas (> 2 cm) usually induce symptoms, including bleeding, obstruction, intussusception, and anemia. The main symptom is chronic, intermittent abdominal pain.^{3,8,9} The diagnosis age is usually the 5th~6th decade. There is slight female predominance. However, sarcomatous change has never been reported.¹⁰

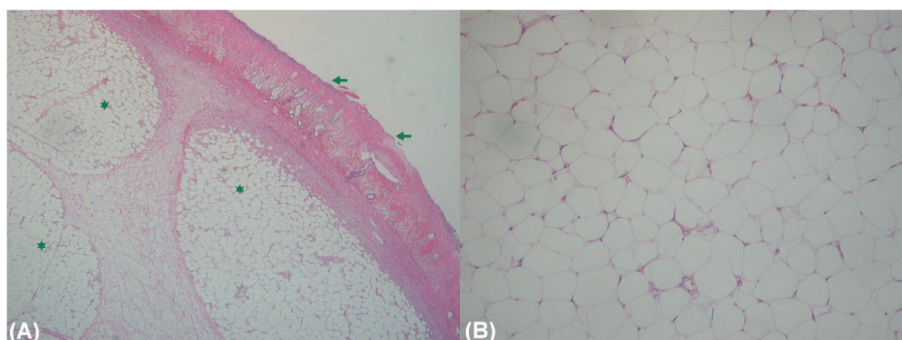


Fig. 4. Microscopically, mature adipose cells (marked as stars) were surrounded by fibrotic septum in the submucosal layer. The adjacent mucosa was firm and erotic with inflammatory change (marked by arrows). Chronic inflammation and granulation tissue were also noted.

In the present case it was difficult to rule out malignancy preoperatively, even after a series of studies, including two colonoscopy exams, endoscopic ultrasonography and biopsy. Furthermore, the clinical presentation mimicked colonic malignancy. The later clinical course included colonic obstruction and bleeding, and elective surgery was arranged after the patient's condition stabilized. During laparoscopic surgery, the locally advanced tumor was grossly favored. Therefore, radical resection was selected. This patient also received laparoscopic cholecystectomy because of concurrent gallstone with equivocal Murphy sign. Colonic intussusception was not found until opening the surgical specimen. Finally, giant lipoma with overlying mucosal ulceration, chronic inflammation and granulation were confirmed pathologically.

The mean time from symptom occurrence to diagnosis is 8 months in the literature.¹¹ The typical features in colonoscopy include cushion sign or pillow sign (pressure from a biopsy forcep) and naked-fat sign (protrusion of fat after biopsy).³ However, the presentation in colonoscopy is sometimes confusing, as in the present case where typical symptoms were lacking. Endoscopic ultrasonography can delineate submucosal tumor, such as lipoma (hyperechoic mass), leiomyoma (hypoechoic), leiomyosarcoma (hypoechoic, more inhomogeneous). However, misdiagnosis does happen.¹² The preoperative diagnosis of lipoma is difficult. Rogy reported only 5 in 17 cases diagnosed preoperatively.¹³ Most intussuscepted lipomas are diagnosed during intervention.¹⁴ We additionally reviewed 10 case reports of colonic lipoma induced intussusception, treated surgically.^{3-5,9,10,15-19} Only Croome et al.⁴ and Twigt et al.³ reported the classic triad. Only Yang et al.¹⁶ and Park et al.¹⁷ used laparoscopic surgery.

Endoscopic removal of lipoma is another choice, however, it is difficult in cases of large lipoma with increased risk of colonic perforation.¹⁵ Such larger lipomas should receive surgical intervention, especially when colonic malignancy is suspected.¹⁰ In recent years, more and more colonic diseases have received laparoscopic surgery. Laparoscopy is beneficial for benign colon lesions because it induces less wound pain and leads to shorter hospital stay.¹⁶ Different from childhood intussusception, most adult

intussusception has a pathologic leading point. Because of its insidious characteristic, most cases will not present the classic triad (vomiting, abdominal pain, hematochezia), and the diagnosis is not easy.⁴ Because of the high rate of malignant leading point, surgery is always mandatory.⁵ However, about 50-60% of colo-colonic intussusception is malignant, and 30% is benign.³ Primary resection without reduction is preferred on account of the high risk of underlying malignancy.

In summary, colonic lipoma is the 2nd most common benign colonic tumor, but symptomatic lipoma is rare. Larger lipoma usually presents with insidious symptoms and signs. It makes preoperative diagnosis challenging, and malignancy remains difficult to rule out. These patients usually receive surgical intervention for suspected colonic malignancy. Non-surgical removal of larger lipoma seems reasonable, but high rate of perforation is also noted. At the same time, malignancy is hard to rule out, if the mass is not removed completely.

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病例報告

伴隨間歇性腸套疊及出血之大型大腸脂肪瘤： 病例報告與文獻回顧

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大腸脂肪瘤屬於少見之疾病，我們報告一大腸黏膜下之脂肪瘤，以大腸對大腸之腸套疊表現，此為一 51 歲女性，手術前診斷為無法排除惡性之大腸腫瘤伴隨脂肪瘤及膽結石，接受腹腔鏡廣泛性右側大腸切除及膽囊切除，手術後才得到確定診斷，文中亦討論大腸脂肪瘤之臨床與病理特性。

關鍵詞 大腸脂肪瘤、腸套疊、腹腔鏡。