Expulsion of Giant Intestinal Lipoma After Laparoscopic Roux-en-Y Gastric Bypass

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ABSTRACT

Introduction: Lipomas of the intestinal tract are rare, but they present as the third most common cause of intestinal neoplasms. Most intestinal lipomas are asymptomatic. However, they may present with bleeding, obstruction, intussusception, or abdominal pain. Spontaneous expulsion of an intestinal lipoma is extremely rare and has never been reported in the postoperative period.

Case Description: We present the case of a 53-year-old male patient who underwent laparoscopic roux-en-Y gastric bypass. On postoperative day 4, the patient had a myocardial infarction and persistent abdominal discomfort. The spontaneous expulsion of an intestinal lipoma was observed on postoperative day 5, after which the patient instantly felt relief. In this case report, we provide a comprehensive literature review of intestinal lipomas, with their complications and management.

Discussion: Only a few spontaneous expulsions of intestinal lipomas have been described in the literature. This is the first reported case of a spontaneous expulsion in the immediate postoperative period or after a myocardial infarction. Intestinal lipomas may cause a variety of complications, including bleeding, obstruction, and intussusception. The likelihood of complications increases with size. The criteria for resection remain controversial, and a variety of technical methods have been described. Spontaneous rectal expulsion of giant intestinal lipomas without surgical or endoscopic manipulation is possible.

Conclusion: Intestinal lipomas are rare and either are asymptomatic or present with unspecific symptoms. A consensus on the clinical management of intestinal lipomas has not been established. Besides open surgery, laparoscopic and endoscopic treatment options are emerging.

Key Words: Lipoma, Laparoscopy, Postoperative complications, Intestinal diseases, Abdominal pain.

Citation Wilhelm BJ, Hamasaki A, Baccaro LM, Ogu S, Aksade A. Expulsion of Giant Intestinal Lipoma After Laparoscopic Roux-en-Y Gastric Bypass CRSLS e2014.00185. DOI: 10.4293/JSLS.2014.00185.

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INTRODUCTION

Lipomas are tumors deriving from the proliferation of mature adipocytes. Lipomas of the gastrointestinal tract grow in the submucosal plane in approximately 90% of the cases. Subserosal lipomas make up about 10% of the total.[1,2] They can be found anywhere in the gastrointestinal tract. The most common location is the colon.[3]

Even though intestinal lipomas are rare, they represent the third most common benign intestinal neoplasm. Overall, 5% of all gastrointestinal tract tumors are lipomas.[4] Weinberg and Feldman[5] conducted a large autopsy series of 60,000 cases and showed an incidence of 0.2%.

Clinically, most gastrointestinal lipomas are asymptomatic (30%). However, patients may present with a variety of symptoms, including abdominal pain, constipation, diarrhea, and rectal bleeding. Gastrointestinal lipomas can also cause obstruction or intussusception.[4]

Spontaneous expulsion of an intestinal lipoma per rectum is very rare, and only a few cases are described in the literature.[4]

CASE DESCRIPTION

A 53-year-old Caucasian man presented to our bariatric surgery service with morbid obesity. He failed all conservative methods for weight loss and inquired about surgical treatment options. His medical history included coronary artery disease, ischemic cardiomyopathy with a left ventricular ejection fraction of 25% to 30%, type 2 diabetes mellitus with diabetic nephropathy, chronic obstructive pulmonary disease, obstructive sleep apnea, and chronic kidney disease. The patient had undergone quintuple coronary artery bypass graft surgery and the placement of an automated implantable cardioverter-defibrillator.

After preoperative evaluation, a laparoscopic roux-en-Y gastric bypass surgery was performed without complications. On postoperative day 1, upper gastrointestinal barium imaging confirmed the absence of an anastomotic leak.

The patient's postoperative recovery was unremarkable. He tolerated his diet and had regular bowel movements. On postoperative day 4, the patient developed shortness of breath. A cardiac workup was initiated, and electrocardiography showed ST-segment depressions in the inferior leads. The troponin I level was 6.0 ng/mL, and the creatine kinase-MB level was 8.9 ng/mL. The patient was diagnosed with a non–ST-segment elevation myocardial infarction. Treatment with clopidogrel and a heparin drip were started.

On postoperative day 5, the patient described a feeling of fullness, and abdominal distension was noticed during physical examination. Later that day, the patient expelled a $5.2 \times 3.6 \times 2.5$ cm mass with his bowel movement, after which he felt instant relief. Histologic examination confirmed the presence of mature adipose tissue consistent with lipoma **(Figure 1)**. After recovery from the non–ST-segment elevation myocardial infarction, the patient was discharged home in stable condition.

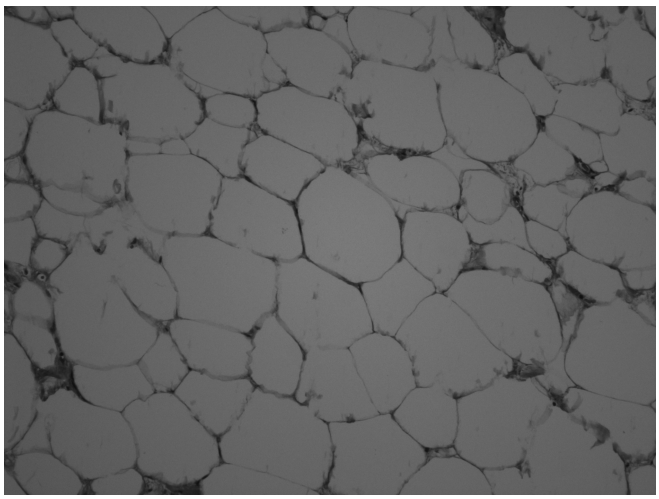

Figure 1. Histologic view of the giant intestinal lipoma.

DISCUSSION

Intestinal lipomas were first described by Bauer in 1757.[4,6,7] The most common locations are the distal ileum, the ileocecal valve, and the ascending colon.[8] These locations are followed in order by the transverse colon, descending colon, sigmoid colon, and rectum. Clinically, most intestinal lipomas are asymptomatic.[4] Taylor and Wolf[9] showed that 46% of intestinal lipomas were incidentally found. Symptoms correlate with the size. Intestinal lipomas that are <2 cm rarely cause any problems.[4] On the other hand, lipomas >2 cm in size are more likely to become symptomatic.[10] Kitamura et al[11] showed that 75% of patients with lipomas >4 cm in size developed symptoms. They can be as unspecific as abdominal pain, diarrhea, constipation, or rectal bleeding.[10] The most common complication of intestinal lipomas is hemorrhage.[12] Other complications include bowel obstruction,[13] intussusception,[2,6,14] and invagination.[15] Malignant transformation of intestinal lipomas has not been reported,[10] and the risk is minimal.[4] Pseudomalignant features can be observed during histopathologic examination and are attributed to intermittent episodes of ischemia.[4,11]

The diagnosis of intestinal lipomas can be established during surgery. Alternatively, they have been detected on various imaging modalities and diagnostic techniques such as computed tomography, barium enema, and colonoscopy.[4] The success rate of preoperative diagnosis with modern imaging modalities such as computed tomography and magnetic resonance imaging is controversial. Recently, modalities such as computed tomographic colonographic examination (virtual colonoscopy) have been used to diagnose intestinal lipomas.[14,16] However, investigators have reported that establishing a preoperative diagnosis was successful in only 62% of patients.[4,17]

The spontaneous rectal expulsion of intestinal lipomas is very rare. The first description of an expulsed lipoma was by Backenstoe in 1940.[18] Since 1942, 19 cases have been reported.[4] Spontaneous expulsion most commonly occurs with large pedunculated lipomas that have a thin pedicle. The mechanism of detachment remains unknown.[4] To our knowledge, the postoperative occurrence of a spontaneous rectal expulsion of an intestinal lipoma has never been described, nor has there been a case reported in which a lipoma was passed during the immediate recovery phase of a myocardial infarction.

The etiology of the spontaneous rectal expulsion of an intestinal lipoma in the postoperative period is unknown. Sympathetic stress during the perioperative period or during an acute myocardial infarction may lead to necrosis of a stalk in a large pedunculated lipoma and detach it from the intestinal wall. Subsequently, passing the lipoma with a normal bowel movement becomes possible. This mechanism can have therapeutic implications, as it may be possible to induce necrosis of the stalk endoscopically.

Controversy exists regarding the management of asymptomatic giant lipomas (>4 cm). The risk for developing intussusceptions from lipomas increases with their size. An analysis showed that the average size of lipomas that caused intussusceptions was 7 cm (range, 4–16 cm). Thus, the authors suggested operative management before intussusception occurs in patients with asymptomatic lipomas ≥4 cm in size.[2] Besides the traditional open operative approach, newer modalities may include laparoscopic techniques. Colotomy and lipomatectomy should be attempted unless there is a concern for malignancy, in which case a more radical procedure may be chosen. Endoscopic methods to mobilize colonic lipomas are an alternative for lipomas that are ≤2 cm.[4,11] Even in giant colonic lipomas that are asymptomatic and pedunculated, an attempt to endoscopically remove the tumor is warranted before surgically resecting it. Our case and the previously described case reports show that passing the tumor with a normal bowel movement is possible, even with giant lipomas.

CONCLUSIONS

An attempt to endoscopically remove an asymptomatic pedunculated colonic lipoma is warranted before surgically resecting it. Possibly, necrosis of the stalks could be induced endoscopically, followed by watchful waiting. However, small bowel lipomas that detach can lead to small bowel obstruction at the ileocecal valve. Our case and the previously described case reports show that passing the tumor with a normal bowel movement is possible, even with giant lipomas.

We thank Dr. Jeen Lee, Department of Pathology, for his support in providing his expertise. For editorial help, we thank Michael Schott.

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