Malnutrition Due to Sub-occlusive Intestinal Syndrome Secondary to Extraluminal Jejunal Leiomyoma

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Citation

J Carvajal Balaguera, P Fernández Isabel, P Gómez Maestro, L Albeniz Aquiriano, S Oliart Delgado de Tórres, M Martín García-Almenta, C Cerquella Hernández. *Malnutrition Due to Sub-occlusive Intestinal Syndrome Secondary to Extraluminal Jejunal Leiomyoma*. The Internet Journal of Surgery. 2008 Volume 18 Number 1.

Abstract

Leimyomas comprise approximately one fourth of benign gastrointestinal tumors and are the most common symptomatic benign tumors of the small bowel. Diagnosis is difficult because of their rarity and the abscence of specifc symptoms.

We present a case of malnutrition due to subocclusive intestinal syndrome secondary to extraluminal jejunal leiomyoma. The patient experienced recurrent attacks of abdominal pain and distention after ingestion of food, with significant weight loss. Abdominal CT scan showed a small intestine compressive tumoral mass. Laparotomy revealed a proximal jejunal tumor. The tumor was resected and bowel continuity was restored. Histopathological study showed jejunal leiomyoma.

Usually, intestinal leiomyoma presents with gastrointestinal bleeding, or small bowel occlusion; however, abdominal pain after ingestion of food, weight loss and malnutrition constitute an exceptional presentation. We have not found another similar case published in the revised literature.

Epidemiology, clinical presentation, diagnosis and surgical manegement of small intestinal leimyoma are reviewed.

INTRODUCTION

The small intestine accounts for approximately 75% of the length and 90% of the mucosal surface of the gastrointestinal tract; despite this large surface, small-bowel tumors are rare and account for less than 2% of the gastrointestinal tumors. The most frequent neoplasms found have been the gastrointestinal stromal tumors (GIST) (36%), followed by lymphomas (24%) and adenocarcinomas (18%). Most tumors (65%) have been located in the ileum [1]. Leiomyomas represent one subgroup of the GIST [2].

Leiomyomas are the most common of all symptomatic small intestinal tumors, comprising 25-30% of all benign gastrointestinal tumors. Sixty-five percent of the tumors are located in the stomach, with 23% in either the jejunum, ileum or duodenum [3,4,5].

Leiomyomas are mostly benign and are uncommonly seen in clinical practice. They are difficult to diagnose due of their raity. Therefore, misdiagnosis can ocurr if careful history and good examination are not performed. The two most frequently presenting symptoms are intermittent gastrointestinal bleeding [6,7,8] and gastrointestinal obstruction [1,9,10], in that order. Less commonly, one may see intestinal invagination, volvulus, intestinal perforation, recurrent abdominal pain, weight loss, nausea and vomiting, abdominal mass, jejunal infarction, and chronic diarrhea [11,12,13,14,15,16,17].

We report a case of malnutrition secondary to intermittent attacks of abdominal pain and distention, after ingestion of food, of 8 months of evolution, due to sub-occlusive extraluminal jejunal leiomyoma.

CASE REPORT

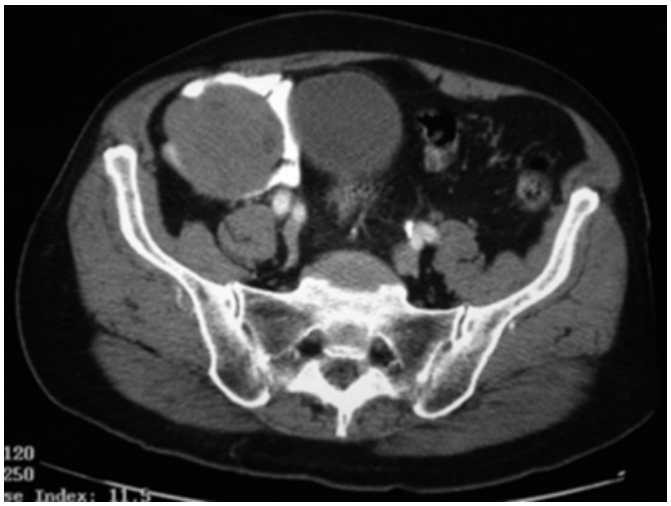
A 78-year-old male patient was admitted to our hospital with an 8-month history of intermittent attacks of abdominal pain, abdominal distention, recurrent nausea, and constipation.

Moreover, the patient referred inappetence, significant weight loss and progressive deterioration of his general state. The patient experienced increasing colics after ingestion of food. He had a history of a cerebrovascular accident without sequels.

Physical examination showed skin and mucous paleness, malnutrition signs, cardiopulmonary auscultation without alterations, abdominal palpation without mass and soft edema of the lower extremities. Rectal examination was normal. Laboratory analysis: Total leukocyte count $2.3x10^{3}$ /µL (marked shift to the left), erythrocytes $3.5x10^{6}$ µL, hemoglobin 9.1g/dL, hematocrit 28%, platelets $156x10^{3}$, glucose 123mg/dL, urea 45mg/dL, total protein 5.1g/dL, serum albumine 2.7g/dL, iron 17µg/dL, ferritin 234ng/dL, prothrombin time 79.3%, cephalin time 30 seconds. Hepatic and thyroid fuction were normal. Carcinoembryonic antigen, alpha-fetoprotein and prostatic antigen were normal. The thorax x-ray revealed no alterations. Abdominal computed tomography (CT) scan showed a proximal jejunal extraluminal mass of soft-tissue density causing partial obstruction of the small intestine in the right upper quadrant (fig. 1). Colonoscopy was negative.

Figure 1

Figure 1: Abdominal CT scan showing a tumor of 10x8cm in intimate contact with small bowel



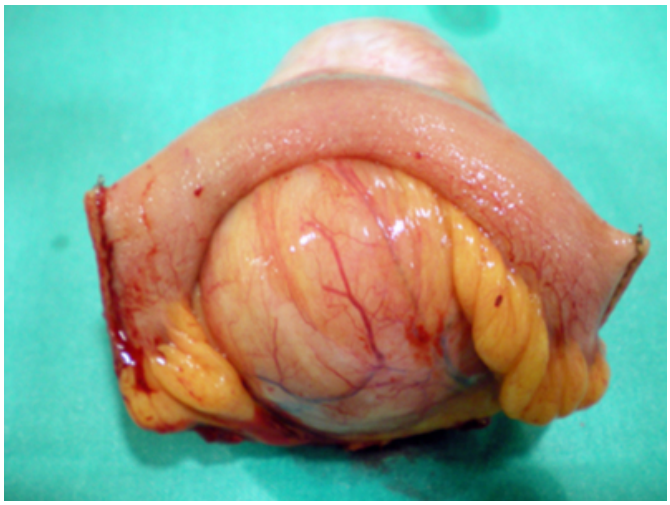
Laparotomy revealed a jejunal stenosis caused by a proximal small-bowel tumor of 12x10cm diameter. The neoplasia almost completely obstructed the intestinal lumen.

Jejuno-jejunal anastomosis was performed after resection of the tumoral segment.

Histopathological examination showed a jejunal extraluminal leiomyoma (fig. 2). No complication ocurred in the early postoperative period, and the patient was discharged on the 9 th postoperative day. After ten months of fllow-up the patient is asymptomatic.

Figure 2

Figure 2: Macroscopic appearance of the extraluminal leiomyoma causing external compression of the jejunum



DISCUSSION

Leimyomas comprise approximately one fourth of the benign gastrointestinal tumors and are the most common symptomatic benign tumors of the small bowel. They are found most commonly in the jejunum (as our case), but also in the ileum and duodenum. These tumors show three different growth patterns: intraluminal (33%), extraluminal (50%), as our case, and bidirectional (dumb-bell shaped) (17%) ([18]). The tumor is usually single, firm, grayish-white, well-defined and encapsulated. It originates from the mesenchyma and arises from spindle cells of the muscular layer of the intestine ([1]). An accurate diagnosis should include good medical history, physical exam, adequate laboratory analysis and appropriate imaging.

Symptoms and signs of small-bowel tumors are vague, unspecific and frequently are confused with other gastrointestinal manifestations, as a consequence these lesions often go untreated for prolonged periods, because they are notoriosly difficult to diagnose. In some occasions these lesions can be incidental findings during unrelated surgery ([19,20,21]).

Jejunoileal leimyomas can affect any age ([22]), have a peak incidence between 50-60 years and have a male to female ratio of 2:1 ([1]). Although most remain asymptomatic, non-specific complaints such as acute gastrointestinal bleeding (most common symptom with 65% frequency) ([6]), chronic

anemia due to occult blood loss ([7,8]), intermittent abdominal pain, or weight loss may be seen ([19,20,21]). Intermittent intestinal obstruction is the second most common complication, with an incidence of 25-45%, especially in tumors located in the ileum ([1,9,10]). Intussusception may also cause subocclusive syndrome or gastrointestinal bleeding due to ischemia and necrosis of the tumor ([11,12,13,14]). Anemia with iron deficiency and obstructive symptoms should alert the physician to examine the small intestine. Sometimes the tumor may enlarge enough to be palpable in an asymptomatic patient.

Our patient had anemia and malnutrition signs. His main symptoms were abdominal pain after ingestion of food with important weight loss; therefore, initially we suspected chronic mesenteric ischemia or a malignant tumor, although the colonoscopy was negative.

CT scan, magnetic resonance (MR), barium studies, endoscopy, endoscopic ultrasound, angiography and capsule endoscopy can be complementary tests of great utility for the diagnosis of this pathology. CT scan can show 90% of leiomyomas. They are sharply defined spheric or ovoid masses of homogeneous density and show contrast enhancement. Sometimes central necrosis can be seen, making the differentiation more difficult ([23]). Leiomyomas are seen as oval or round filling defects on barium studies, except extraluminal lesions, which may not be detected unless they are quite large ([18,24]). However, only 29.3% of primary tumors of the small intestine could be demostrated by barium x-ray examination ([3]). Capsule endoscopy has increased the preoperative diagnosis of these tumors; as a consequence, they are currently diagnosed early and operated electively with increased frequency. Nonetheles, this procedure is contraindicated in suspected intestinal obstruction ([25]).

In most patients, the mean period between onset of complaints and diagnosis has ben found to be 7 months with a range between 3 months and 5 years ([5,18,26]). Our patient was correctly diagnosed after eight months. Among the differential diagnoses there are other GIST, lymphomas, adenocarcinomas, mesenteric cysts and cystic lymphangiomas ([1,16]).

Surgical resection is the treatment of choice for gastrointestinal leiomyomas by conventional or laparoscopic approach ([27,28]). In patients with intestinal obstruction, complications and survival are related to age, associated morbidity, non-viable strangulation and treatment delay ([29]). The reported morbidity rate for elective patients operated on for small-bowel tumors was 42%. The most common postoperative complications are surgical wound infection, intestinal fistula, mesenteric ischemia and prolonged postoperative ileus ([1]).

Strict follow-up of these tumors should be made due to the uncertain potential of malignancy of GIST. In the case of intestinal leiomyoma, this potential ranges from 10 to 20% ([30,31]).

CONCLUSION

Diagnosis of jejunoileal leimyoma is difficult because it does not have specific symptoms and frequently is confused with other gastrointestinal manifestations; as a consequence, these lesions often go untreated for prolonged periods. Misdiagnosis can occur if a careful history and good examination are not performed.

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References

1. Beltran MA, Cruces KS. Primary tumors of jejunum and ileum as a cause of intestinal obstruction: a case report. Int J Surg 2007;5:183-91.
2. Davila RE, Faiget DO. GI stromal tumors. Gastrointest Endosc 2003;58:80-8.
3. Zhang WL. Primary tumor of the small intestine: Analysis of 102 patients. Zhonghua Zhong Liu Za Zhi 1988;10:370-2.
4. Desa LA, Bridger J, Garce PA, Krausz T, Spencer J. Primary jejunoileal tumors: a review of 45 cases. World J Surg 1991;15:81-6.
5. Yang YS, Huang QY, Wang WF, Sun G, Peng LH. Primary jejunoileal neoplasms: a review of 60 cases. World J Gsatroenterol 2003;9:862-4.
6. Demirbas A, Volkan Z, Dapha C, Sayek L. Leiomyomas of the small bowel: a rare cause of massive and recurrent gastrointestinal bleeding. Hepatogastroenterol 1994;41:589-90.
7. Rey A, De la Portilla F, Lara C, Borrero J, Moreno E, Utrera A. Hemorragia digestiva crónica por leiomioma de yeyuno. Cir Esp 1998;63:393-5.
8. Barrera A, Morato PA, Bannura GC, Peñaloza PM, Martínez DO, Massol DI. Hemorragia digestiva oculta por un tumor de intestino delgado. Rev Chil Cir 2003;55:505.8.
9. Dumnici A, Covaci P, Martin V, Raica M. Occlusive leiomyomas of the small intestine. Chirurgia. 1998;93:349-52.
10. Arnell T, Stamos MJ. Small bowel obstruction. Clin Colom Rectal Surg 2001;14:69-78.
11. Sunamak O, Karabicak I, Aydemir I, Aydogan F, Guler E, Centikaya S, Korman MU. An intraluminal leiomyoma of the small intestine causing invagination and obstruction: a case report. Mt Sinai J Med 2006;73:1079-81.
12. Draskovic M, Misovic S, Kronja G, Krsic J, Tomic A,

Sraac M. Jejuno-jejunal intususception in adults secondary to submucosal leiomyoma. Med Pregl 2005;58:405-409.
13. Alvarez A, Ciriza C, García J, Sánchez A, Diaz M. Leiomyoma-dependent ileal invagination as a causa of intermittent intestinal obstruction. An Med Interna 1995;12:505-7.
14. Albeniz L, Lafuente JL, Antela J, Mendez J, Diego P. Intestinal intussusception due to ileal leiomyoma. Radiology 1997;39:54-6.
15. Diaz F, Pallas JA, Estellés P, Roig JV. Vólvulo intestinal secundario a leiomyoma intestinal. Cir Esp 1997;61:377-9.
16. Bueno J, Serralta A, Moya A, Ballester C, Ibañez F, Rodero D. Quiste mesentérico secundario a leiomioma yeyunal. Cir Esp 2000;68:261-263.
17. Cox MR, James DT, Hunt RF. Infartation of a jejunal leiomyoma presentating as an acute abdomen. Aust N Z J Surg 1992;62:76-8.
18. Gourtsoyiannis NC, Bays D, Malamas M, Barouxis G, Liasis N. Radiological appearences of small intestinal leiomyomas. Clin Radiol 1992;45:94-103.
19. Gill SS, Heuman DM, Mihas AA. Small intestinal leiomyomas. J Clin Gastroenterol 2001;33:267-282.
20. Blanchard DK, Budde JM, Hatch GF. Tumors of the small intestine. World J Surg 2000;24:421-9.
21. Gupta S. Primary tumors of the small bowel: a clinicopathological study of 58 cases. J Surg Oncol 1982;20:161-7.
22. Georgacopulo P. Jejunal leimyoma as a cause of neonatal intestinal occlusion. Minerva Chir 1975:30:949-51.
23. Mallo RD, Salem L, Lalani T, Flum DR. Computed tomography diagnosis of ischemia and complete obstruction in small bowel obstruction: a systematic review. J Gastrointest Surg 2005;9:690-4.
24. Korman MU. Radiologic evaluation and staging of small intestine neoplasma. Eur J Radiol 2002;42(3):193-205.
25. Costamagna G, Shah SK, Riccioni ME. A prospective trial comparing small bowel radiographs and video capsule endoscopy for suspected small bowel disease. Gastroenterology 2002;123:999-1005.
26. O´Riordan BG, Vilor M, Herrera L. Small bowel tumors: an overview. Dig Dis 1996;14:245-257.
27. Wu PC, Langerman A, Ryan CW, Hart J, Swiger S, Posner MC. Surgical treatment of gastrointestinal stromal tumors in the imatinib era. Surgery 2003;134:656-66.
28. Kok KY, Mathew VV, Yapp SK. Laparoscopic-assisted small bowel resection for a bleeding leiomyoma. Surg Endosc 1998;12:995-6.
29. Fevang BT, Frevang J, Stangeland L, Soreide O, Svanes K, Viste A. Complications and death after surgical treatment of small bowel obstruction. Ann Surg 2000;231:529-37.
30. Özgüc H, Yilmazlar T, Yerci Ö. Analysis of prognostic and inmunohistochemical factors in gastrointestinal tumors with malignant potential. J Gastrointest Surg 2005;0:127-41.
31. Salari GR, Peny MO, Van de Stadt J, Donckier V, Zaleman M, Gelin M. Late liver metastase of small bowel leimyom. The difficulty in assessing malignacy in gastrointestinal smooth muscle tumors. Acta Chir Belg 1998:98:107-9.

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