CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 39 (2017) 36–38

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Obstructive mobile small intestinal tumor without radiographic stigmata of bezoar

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ARTICLE INFO

Article history:
Received 7 April 2017
Received in revised form 8 July 2017
Accepted 8 July 2017
Available online 19 July 2017

Keywords:
Leiomyoma
Small bowel obstruction
Bezoar
Case report

ABSTRACT

INTRODUCTION: Gastrointestinal leiomyomas are often clinically silent until they bleed or grow large enough to cause local mass effect.
PRESENTATION OF CASE: We report the unique case of an otherwise healthy 69-year-old male who developed a small bowel obstruction secondary to a mobile small intestinal leiomyoma. During initial evaluation, computed tomography did not demonstrate the cause of obstruction. Because of worsening clinical status with conservative management, the patient required emergency laparotomy. Operative findings were significant for an intraluminal leiomyoma that had detached from its pedicle, traveled to the tight lumen of the distal ileum and acted as an obstructive "bezoar" composed of native tissue. Removal of the mass resulted in rapid metabolic stabilization and relief of symptoms.
DISCUSSION: This case report illustrates the complexity of diagnosing obstruction secondary to intraluminal native tissue. Clinicians must be aware that such masses may clinically present as but not have corresponding radiographic stigmata of typical bezoars.
CONCLUSION: In the absence of clear clinical or radiographic etiology for obstruction, developing a heightened degree of suspicion for native tissue "bezoar" may allow quick and appropriate management of similar cases and limit complications associated with prolonged obstruction. To our knowledge, this is the first reported case of mobile intraluminal leiomyoma causing small bowel obstruction.

1. Introduction

Small bowel obstruction (SBO) is a common general surgical disease, accounting for more than 300,000 hospital admissions per year in the United States [1]. The most common causes of SBO include intra-abdominal adhesions (66%), neoplasm (9%), hernias (8%), inflammatory bowel disease (5%) and miscellaneous causes (4%) [2].

Gastrointestinal stromal tumors (GISTs) account for only 15% of small intestinal neoplasms. A fraction of these tumors are leiomyomas [3]. Leiomyomas in the small intestine tend to be asymptomatic until they bleed or grow large enough to cause local mass effect such as obstruction.

SBO also rarely occurs secondary to mobile masses of indigestible intraluminal material otherwise known as bezoars; common substances include ingested hair and fibrous vegetables. The bezoar material often bears a classic mottled gas appearance on radiographic studies and may present as an etiology of SBO in the absence of previous abdominal operation [4].

We report the case of a dislodged gastrointestinal leiomyoma that caused complicated SBO in a manner similar to a bezoar but without the historical or radiographic stigmata of bezoars. To our knowledge, this is the first reported case of mobile intraluminal leiomyoma causing small bowel obstruction.

2. Presentation of case

A 69-year-old African-American male with no significant past medical history and surgical history limited to bilateral open inguinal hernia repairs presented to the emergency department of an academic trauma center. His family history was noncontributory and he reported taking no medications at home. He complained of four days of worsening generalized abdominal pain and distension associated with obstipation and non-bilious, non-bloody emesis. His abdomen was softly distended with generalized mild tenderness. Initially, there was no evidence of systemic inflammatory response syndrome (SIRS) or bowel ischemia. Abdominal x-ray revealed distended small bowel loops with air-fluid levels. Contrast

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http://dx.doi.org/10.1016/j.ijscr.2017.07.014

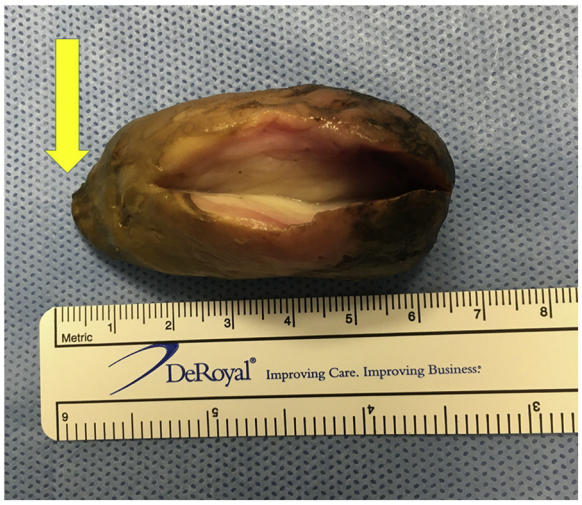

Fig. 1. Gross pathology of mobile indigestible intraluminal obstructive leiomyoma. Arrow denotes ischemic, detached pedicle.

computed tomography (CT) confirmed small bowel obstruction of uncertain etiology with a transition point in the distal ileum.

Attempts at conservative management with nasogastric tube decompression were unsuccessful as serum lactate levels climbed rapidly to 9 meq/L. The patient underwent emergency exploratory laparotomy which revealed dilated, inflamed, dusky but viable small bowel proximal to an ovoid, well-circumscribed, mobile, intraluminal mass in the terminal ileum approximately 70 centimeters proximal to the ileocecal valve. The mass was removed via enterotomy.

On gross examination, the mass appeared teardrop in shape, measuring six and a half centimeters in length by three centimeters in maximum diameter with a homogenously pale tan surface (Fig. 1]. Microscopic evaluation revealed diffuse ischemic necrosis with centrally located viable tumor consisting of bland spindle cells arranged in fascicles that showed expression of smooth muscle actin on immunohistochemistry (Fig. 2a and b). These findings were consistent with leiomyoma.

Repeat evaluation of patient's pre-operative imaging confirmed subtle evidence of an intraluminal, homogenous ovoid native tissue at the transition point (Fig. 3).

Following operation, the patient's acute condition improved. His postoperative course was complicated by paralytic ileus and superficial wound infection. However, he healed well and presented in stable condition in the outpatient setting within a month after his initial presentation.

3. Discussion

A bezoar is typically a mobile conglomerate of indigestible material that obstructs at tight junctures in the gastrointestinal lumen (e.g. pylorus, terminal ileum or ileocecal valve). The leiomyoma in this case behaved in a similar fashion by lodging approximately 70 centimeters proximal to the ileocecal valve, a location in the terminal ileum known to have a classically narrower lumen and slowed motility.

Bezoars often present with a characteristic CT appearance as round or ovoid heterogeneous intraluminal masses with a pathognomonic "mottled gas appearance." These findings often guide diagnosis and enable rapid operative intervention —typically, bezoars must be excised by enterotomy. Unlike the presentation of a typical bezoar, the mobile, intraluminal leiomyoma in our case was homogenous on imaging without a classic mottled gas appearance. Furthermore, its density was similar to that of native tissue

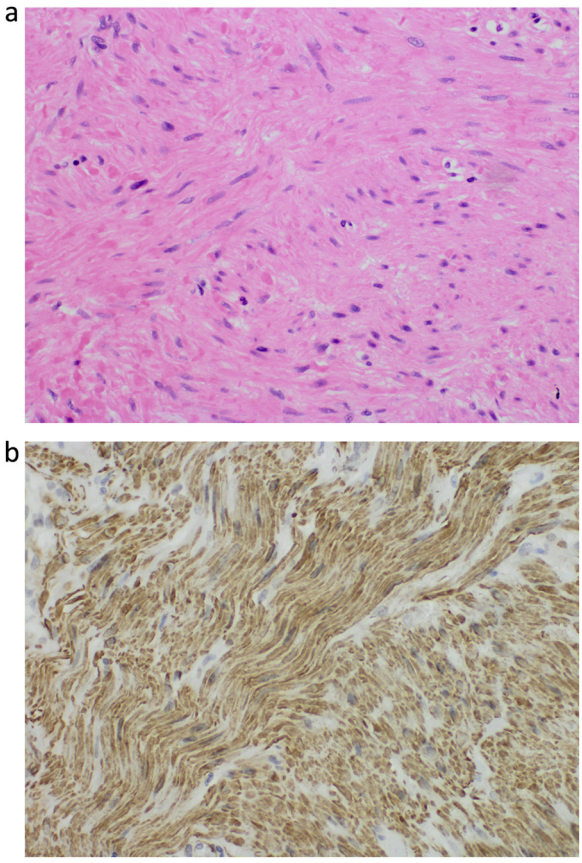

Fig. 2. a and b. Microscopic pathology confirming leiomyoma.

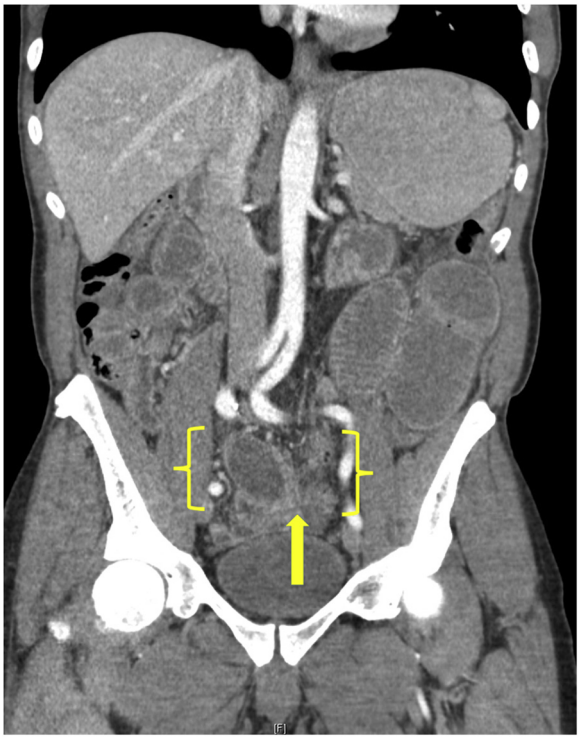

Fig. 3. Computed tomography demonstrating obstructive intraluminal mobile leiomyoma. Note the homogenous appearance. Typically, indigestible masses that cause obstruction present with a mottled gas appearance. Arrow denotes transition point.

rather than foreign material, further complicating radiologic diagnosis.

While it was immediately recognized that the patient in our case had SBO, the etiology was unclear. In hindsight, conservative management would have failed as is typical of SBO caused by bezoar. Without the classic imaging findings to inform optimal management, a delay in operative intervention occurred, and the patient's clinical status deteriorated. For future similar cases, awareness of the atypical imaging findings would raise the degree of suspicion for this complex diagnosis and prevent delay in the interventions needed.

Three authors (EO, MB and GAB) independently performed extensive online literature searches for similar cases, and to our knowledge, this is the first reported case of SBO caused by intraluminal native tissue obstructing in the manner of a bezoar.

4. Conclusion

We present a novel case of mobile intraluminal native tissue "bezoar" causing complicated SBO. While bezoars have a classic appearance on radiographic imaging, mobile native tissue with atypical imaging findings may complicate diagnosis. Awareness of these atypical imaging findings may allow quick and appropriate management of similar cases and limit complications associated with prolonged obstruction.

Scare statement

This work has been produced and reported in line with the SCARE guidelines [5].

Conflicts of interest

The authors declare no financial or personal conflict of interest.

Sources of funding

There was no funding for this research.

Ethical approval

The case report received approval from the SBH Health System Institutional Review Board (Reference number: 2016.61).

Consent

All patient information including imaging presented in this case report is done so with the express written informed consent of the patient. A copy of the written consent was submitted to the SBH Health System IRB to obtain approval and is available for review by relevant parties upon request.

Author contribution

Dr. Gerard Baltazar: Principal investigator'.

Dr. Elif Onursal: Data analysis/interpretation, first author'.

Merilyn Baby OMS IV: Data collection/analysis/interpretation, second author.

Dr. Ali Chaudhri: Pathological assessment, additional author.

References

[1] D. Azagury, R.C. Liu, A. Morgan, D.A. Spain, Small bowel obstruction: a practical step-by-step evidence-based approach to evaluation, decision making, and management, J. Trauma Acute Care Surg. 79 (4) (2015) 661–668, http://dx.doi.org/10.1097/TA.0000000000000824.

[2] L.S. Bizer, R.W. Liebling, H.M. Delany, M.L. Gliedman, Small bowel obstruction: the role of nonoperative treatment in simple intestinal obstruction and predictive criteria for strangulation obstruction, Surgery 89 (4) (1981) 407–413.

[3] M. Miettinen, M. Majidi, J. Lasota, Pathology and diagnostic criteria of gastrointestinal stromal tumors (GISTs): a review, Eur. J. Cancer 38 (Suppl. 5) (2002) S39–51.

[4] Fatih Altintoprak, Bumin Degirmenci, Enis Dikicier, Guner Cakmak, Taner Kivilcim, Gokhan Akbulut, Osman nuri dilek, and yasemin gunduz CT findings of patients with small bowel obstruction due to bezoar: a descriptive study, ScientificWorldJournal 2013 (April (18)) (2013) 298392, http://dx.doi.org/10.1155/2013/298392.

[5] R.A. Agha, A.J. Fowler, A. Saetta, I. Barai, S. Rajmohan, Orgill DP, for the SCARE group: the SCARE statement: consensus-based surgical case report guidelines, Int. J. Surg. 34 (2016) 180–186.