

A rare case of giant peritoneal loose body: A case report

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ABSTRACT

Peritoneal loose bodies (PLBs) are uncommon abdominal lesions, typically asymptomatic and discovered incidentally during surgery. Giant PLBs, exceeding 5 cm in size, are even rarer and can present with clinical symptoms mimicking other abdominal pathologies. We present a 57-year-old male with a giant PLB presenting as intermittent abdominal pain, distention, and rectal bleeding. Imaging studies suggested colo-colic intussusception due to a colonic lipoma. The patient underwent an exploratory laparotomy revealing a segment of the descending colon containing multiple lipomas, one causing intussusception. In addition, a separate giant PLB 6 × 5.5 cm with central calcification was identified. A segmental colectomy with primary anastomosis and resection of the PLB was performed. The patient recovered well and reported complete resolution of symptoms at follow-up. Pathology confirmed a benign lipoma and a giant PLB. This case highlights the potential for giant PLBs to cause clinical symptoms and emphasizes the importance of including them in the differential diagnosis of abdominal complaints, even in the absence of a classic presentation. Exploratory laparotomy remains a definitive approach for diagnosis and management in such cases.

Key words: Abdominal pain, Colocolic intussusception, Peritoneal inclusion body

Peritoneal loose bodies (PLBs) are uncommon abdominal lesions typically discovered incidentally during surgery [1]. Often small and asymptomatic, they can occasionally grow to a significant size, presenting as “giant loose bodies.” These larger PLBs pose a diagnostic challenge, mimicking other abdominal pathologies [2].

While PLBs are more frequently encountered in asymptomatic individuals, this case demonstrates their potential to cause clinical symptoms and highlights the importance of considering them in the differential diagnosis of abdominal complaints, even in the absence of a classic presentation. This report details the patient’s clinical presentation, workup findings, and the diagnostic challenges encountered. We will discuss the role of imaging techniques, such as ultrasound (USG) and computed tomography (CT) scans in differentiating giant PLBs from other possibilities and emphasize the definitive role of surgical intervention for diagnosis and management.

CASE REPORT

A 57-year-old male presented to the emergency department with a 2-month history of intermittent abdominal pain, distension, and per rectal bleeding. The pain was described as cramping and localized

to the lower abdomen. It occurred several times a day, lasting for minutes to hours, and was partially relieved by passing gas or stool. The abdominal distention was persistent and accompanied by a feeling of fullness. He also reported infrequent episodes of bright red rectal bleeding after passing stool. The patient reported a history of irregular bowel habits but denied any prior surgeries, significant abdominal trauma, or inflammatory bowel disease. He had no family history of gastrointestinal conditions. He was not taking any regular medications and denied any allergies. He also denied smoking tobacco or using illicit drugs. He consumed alcohol occasionally.

On general examination, vital signs were within normal limits. He appeared slightly pale but was in no acute distress. Abdominal examination revealed a mildly distended abdomen that was soft and non-tender to palpation. No discrete masses were palpable. A digital rectal examination demonstrated no active bleeding or palpable lesions.

A complete blood count revealed mild microcytic anemia (low red blood cell count). Other laboratory tests, including electrolytes, liver function tests, and kidney function tests, were within normal ranges. USG abdomen was suggestive of a well-defined echogenic lesion with central calcification identified in the pelvic midline anterior to the rectum and sigmoid colon. In addition, the USG suggested a possible colo-colic intussusception. Contrast-enhanced CT confirmed the presence of colonic lipomas, one of which appeared to be leading to an intussusception in the

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descending colon. In addition, a well-defined, rounded soft-tissue density lesion with a central calcific area was visualized in the peritoneal cavity within the hypogastric region. This lesion showed no communication with the intestines or other abdominal structures, leading to a suspicion of a peritoneal loose body (likely a giant PLB) (Fig. 1).

Given the concern for intussusception and the unclear nature of the soft-tissue lesion, the patient underwent an exploratory laparotomy. The laparotomy revealed a segment of the descending colon containing multiple lipomas. One of these lipomas, measuring approximately 6×5.5 cm, was pedunculated and appeared to be causing an intussusception. In addition, a separate, mobile, encapsulated mass with a central area of calcification was identified within the peritoneal cavity, consistent with a giant PLB (Fig. 2).

The laparotomy procedure involved a segmental colectomy with primary anastomosis to address the intussusception caused by the pedunculated lipoma. The giant PLB was also resected during the laparotomy (Fig. 3a). The patient tolerated the procedure well and recovered uneventfully.

The biopsy report confirmed that the resected colonic segment contained a large, benign lipoma and the separate mass was a peritoneal inclusion body having encapsulated fat necrosis with extensive hyalinization and a central area of calcification (Fig. 3b).

The patient recovered well post-operatively and was discharged home on a regular diet with pain medication. He was seen in the clinic 2 weeks later and reported a complete resolution of his abdominal pain and distention. He has continued to do well on follow-up at 6 months with no recurrence of symptoms.

DISCUSSION

The first case of intra-abdominal peritoneal loose body was described in 1703 by Littre [3]. Only one case has been reported in an infant [4]. It is usually more commonly detected in males of age 40–70 years and has a small diameter of 0.5–2.5 cm. Giant PLBs rarely exceed the size of 5 cm [3].

The rarity of giant PLBs and their ability to mimic other conditions creates diagnostic challenges. While typically asymptomatic, larger PLBs can cause symptoms by compressing surrounding structures or causing adhesions [5]. In this case, the giant PLB's location and potential for future complications necessitated surgical removal alongside the treatment of the intussusception.

PLB presents as a mobile, hypoechoic, round mass with wide lateral shadowing in USG imaging [6]. CT, however, shows a round or oval-shaped, well-defined mass with central calcification, surrounded by peripheral soft tissue [7]. It also shows no fluorodeoxyglucose uptake on positron emission tomography scan and no enhancement with contrast, which can be helpful in differentiating PLBs from leiomyomas and calcifying fibrous pseudotumors [8]. On T1- and T2-weighted magnetic resonance imaging, PLB appears as a low-intensity mass comparable to

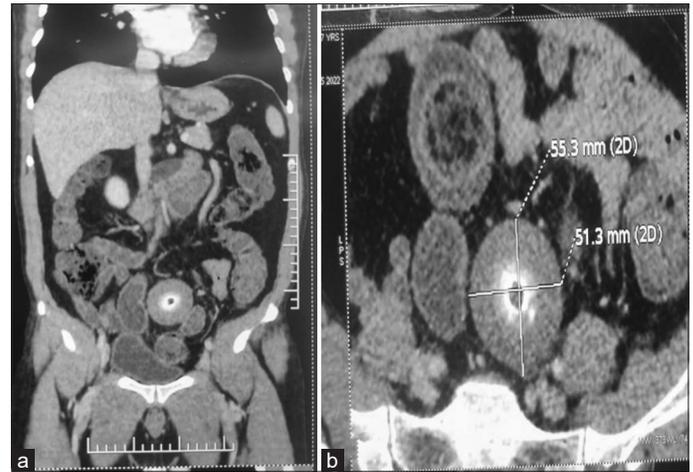


Figure 1: (a) Computed tomography (CT) scan showing PLB with descending colon intussusception and (b) sagittal CT scan showing PLB with central calcification



Figure 2: (a) Gross specimen of PLB and (b) cut section of the specimen showing calcification and fat necrosis

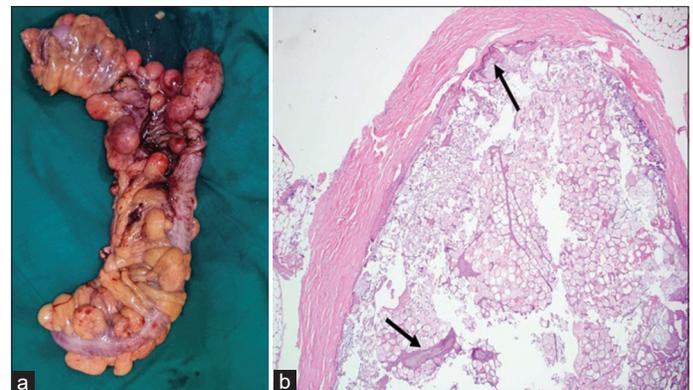


Figure 3: (a) Segment of descending colon with multiple lipomas and (b) holoprosencephaly suggestive of hyalinization and fat necrosis

muscle tissue or collagen fiber, with a central high-intensity on T1-weighted images [9].

In addition, scanning of the patient in the prone position or a follow-up imaging study can demonstrate the mobility of a loose body and can help in the diagnosis [10] although peritoneal loose bodies are rarely diagnosed pre-operatively.

The definitive diagnosis of PLBs often relies on surgical exploration. While laparoscopy has become a preferred minimally invasive approach for many abdominal procedures, exploratory laparotomy remains a valuable tool, particularly in cases with unclear diagnoses or suspicion of multiple pathologies, as demonstrated here. Laparotomy allows for direct visualization and manipulation of the abdominal cavity, enabling the identification

and management of unexpected findings like the giant PLB in this case [11].

CONCLUSION

This case underscores the importance of considering giant PLBs in the differential diagnosis of abdominal complaints, even when a more common cause seems apparent. Imaging techniques like CT scans can be helpful in identifying PLBs, but surgical exploration often remains the definitive diagnostic and therapeutic approach. This case also highlights the utility of exploratory laparotomy in managing complex abdominal presentations with the potential for unexpected findings.

REFERENCES

1. Obaid M, Gehani S. Deciding to remove or leave a peritoneal loose body: A case report and review of literature. *Am J Case Rep* 2018;19:854-7.
2. Makineni H, Thejeswi P, Prabhu S, Bhat RR. Giant peritoneal loose body: A case report and review of literature. *J Clin Diagn Res* 2014;8:187-8.
3. Kosam S, Kujur P, Mire V. 'Peritoneal mice' a peritoneal loose body in pelvic cavity of 70 years old man, an incidental finding-a case report. *Int J Sci Res* 2017;6:2366-9.
4. Shepherd JA. Peritoneal loose body causing acute retention of urine. *Br J Surg* 1951;39:185-7.
5. Asabe K, Maekawa T, Yamashita Y, Shirakusa T. Endoscopic extraction of a peritoneal loose body: A case report of an infant. *Pediatr Surg Int* 2005;21:388-9.
6. Ooyagi H, Ishida H, Komatsuda T, Yagisawa H. Peritoneal loose body. *J Med Ultrason* (2001) 2006;33:189-90.
7. Gayer G, Petrovitch I. CT diagnosis of a large peritoneal loose body: A case report and review of the literature. *Br J Radiol* 2011;84:e83-5.
8. Kim HS, Sung JY, Park WS, Kim YW. A giant peritoneal loose body. *Korean J Pathol* 2013;47:378-82.
9. Allam T, Muzaffar R, Nguyen NC, Osman MM. Peritoneal mouse as detected on (18)F-FDG PET-CT. *Front Oncol* 2013;3:83.
10. Arwika AS, Chavarkar S, Sudhamani S, Mukharji S. Peritoneal loose body with boiled egg appearance. *Indian J Pathol Microbiol* 2022;65:511-2.
11. Baert L, De Coninck S, Baertsoen C, Lissens P, Djoa L. Giant peritoneal loose body: A case report and review of the literature. *Acta Gastroenterol Belg* 2019;82:441-3.

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