Case Report

Peritoneal Loose Body in A Postmenopausal Woman Presenting with Inguinal Pain

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Abstract

Peritoneal loose bodies are rare lesions and are found incidentally during interventional procedures or on imaging studies for other reasons. These lesions often present a challenging diagnostic problem requiring advanced examinations and may show confusing findings indicating malignancy or metastatic lesions. We describe a case in a 53-year-old postmenopausal woman suffering from inguinal pain, which was understood to be caused by a peritoneal loose body. The patient was diagnosed using various methods, including ultrasonography, CT, MRI, and histological examinations following exploratory laparoscopy. If patients have abdominal pain in the presence of an oval or round, well-defined mobile mass in radiological examinations, they should be carefully evaluated for the peritoneal loose body. Surgical removal is recommended for symptomatic peritoneal loose bodies, and removal also makes it possible to exclude malignancies.

Keywords: Peritoneal loose body, Postmenopausal, Inguinal, Pain.

Introduction

Peritoneal loose bodies, also known as peritoneal mice, are uncommon lesions and demonstrate either non-specific symptoms or are incidentally found on imaging studies or during laparotomy or autopsy.[1] It is a challenging diagnostic problem for the clinician, with confusing findings that may indicate malignancy.[2]

Here, we report a case of peritoneal loose body presenting with inguinal pain in a postmenopausal woman.

Case Presentation

A postmenopausal 53-year-old woman suffering from chronic pain for around three years was admitted to our hospital due to inguinal pain. The pain was independent of a menstrual period and postural position, and the patient had no relief with non-steroidal analgesics. She had diabetes mellitus, hypertension, and a thyroid condition. Surgical history included surgeries such as cesarean section and lumbar disc herniation. The abdominal and pelvic examination did not demonstrate any conclusive findings. Transvaginal ultrasonography revealed a solid, 50x38 mm sized cystic structure with a distinct linear hyper-echogenic area in the left adnexal region. Direct abdominal X-ray showed a 28x27x24 mm hypoechoic lesion with echogenic central and nodular smooth contour around the recto-uterine part. Lower abdominal tomography showed a 37x37x43 mm lesion in the area between the uterus and rectum, which contained a thick, soft tissue component with a heterogeneous fat density in the lumen nucleus. Besides, a 3-cm-diameter mass with hyper-echogenic formation (that could be differentially diagnosed as neither an intra-peritoneal loose body nor a gossypiboma) was found in pelvic magnetic resonance imaging.

Laboratory workup, including complete blood count and basic metabolic panel, lipase, and liver function tests, were within normal ranges. Furthermore, tumor markers were as follows: Alpha-fetoprotein: 0.79 ng/ml, Cancer antigen (CA) 125: 8.19 U/ml, CA 19-9: 9.06 U/ml, CA-

15-3: 16.21 U/ml, Carcinoembryonic antigen (CEA): 1.05 ng/ml; all were within references values. The patient underwent diagnostic laparoscopy with a preliminary diagnosis of gossypiboma. Upon opening the abdomen, the uterus, right ovary, and bilateral tubules were observed to have natural appearances, while the left tubal pelvic sidewall was adherent. This led to the consideration of the possibility of local peritonitis. After adhesiolysis, a smooth, ellipsoid, bright and yellow colored, 40 x 30 mm sized, free-floating mass without any attachments to the surrounding tissues was observed recto-uterine region. The mass was removed and dissected longitudinally in operation (Figure 1 and 2).

Figure 1. Extracted specimen. The peritoneal loose body, measured 3 cm, was yellow, challenging, and oval-shaped –with a remarkably smooth surface.

Figure 2: Extracted peritoneal loose body with the surface cut vertically, demonstrating yellowish material with a focally calcified center

It was observed to be compatible with fat necrosis and calcifications. The operation was terminated after the frozen section examination was reported to be a "benign fibrous lesion." The patient had a swift recovery and had no complaints of inguinal pain after the surgery.

Discussion

Peritoneal loose bodies are often small, white-to-pale yellow, egg-shaped lesions with a smooth surface and rubbery consistency. They are usually found in the peritoneal cavity incidentally during laparotomy or on imaging studies. The pathogenesis and origin of peritoneal loose bodies have not been identified. However, many researchers agree that they arise from torsion, infarction, and separation of appendix epiploicae after saponification, calcification, and fibrosis.[1,3] It was suggested that peritoneal loose bodies gradually increase in size due to protein absorption from the peritoneal fluid.

On the other hand, the factors affecting the peritoneal loose body's growth rate are not established. It was also shown that peritoneal loose bodies could emerge from auto-amputated adnexa or a uterine leiomyoma in women.[3] We report our case in a postmenopausal patient. However, we were unable to identify the origin of the peritoneal loose body in our patient.

Peritoneal loose bodies usually range in size from 5 to 25 mm in diameter; however, although very rare, case reports of larger bodies do exist. For instance, Mohri et al. reported a case of a giant peritoneal loose body measured 98 x 86 mm in a patient that had applied with abdominal pain.[4] Gayer and Petrovitch demonstrated a case of a 3 cm round mobile intra-peritoneal loose body incidentally.[5] Peritoneal loose bodies are usually located in the pelvic cavity or near the spleen in the supine position due to gravity. Consistent with the literature, we observed a 40 x 30 mm peritoneal loose body in the peritoneal cavity. Although small peritoneal loose bodies are usually asymptomatic, when the body is large enough and in a particular localization, patients may be hospitalized with abdominal and pelvic pain, acute urinary retention, or intestinal obstruction due to external compression.[1,6] Lee et al. showed a 60-mm peritoneal loose body in a female case presenting with abdominal pain.[7] In our case, the patient, had long been suffering inguinal pain due to this large peritoneal loose body.

Therefore, it is apparent that clinicians must be able to differentiate peritoneal loose bodies from other conditions, including leiomyoma, teratoma, fibroma, urinary stones, appendix stones, gallstones, malignancies, metastasis, calcification of lymph node, mesentery cysts, and so on, by using CT and MRI.[1]

Peritoneal loose bodies are rare lesions but are often challenging diagnostically. Imaging studies and initial investigations may lead to suspicion for malignancies or inflammatory conditions. Patients with unexplained and long-standing abdominal pain who have undergone previous surgeries in their abdomen may require meticulous evaluation. Identifying an oval or round, well-defined mobile mass in radiological examinations should be considered a warning sign for peritoneal loose bodies, especially considering that treatment is straightforward and recovery is often immediate. Surgical removal with appropriate considerations is recommended to treat symptomatic peritoneal loose bodies, and pathological examinations should be performed to exclude malignancies.

Conclusion

Rare causes should be considered in the differential diagnosis of chronic pelvic pain.

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