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Case Report and Review of the Literature

Symptomatic Preperitoneal Lipoma Resected via Preperitoneal Approach: A Case Report and Review of the Literature

Willem Pype^{1*}, Rajesh Sisodiya² and Sebastiaan Van Cauwenberge¹

¹Department of General, Vascular and Pediatric Surgery AZ Sint-Jan Brugge, Belgium

²Department of General Surgery, Saudi German hospital, Sharjah, UAE

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ABSTRACT

Introduction: Lipomas are benign adipose tissue tumors that can vary in size and location. Magnetic resonance images should be obtained for all soft-tissue masses that are deep to fascia or those >5 cm in subcutaneous tissue. In this case report, we present a minimal invasive technique to resect a large preperitoneal lipoma.

Case Presentation: A 36-year-old woman presenting with left fossa pain caused by a large mass. MRI-imaging shows a large preperitoneal lipomatous lesion (61 × 58 × 40 mm) which compresses the bladder, tuba and surrounding vessels. We did a minimally invasive preperitoneal laparoscopic surgical resection. Postoperative follow-up was uneventful. The pathology report confirmed benign lipoma without signs of malignancy.

Discussion: Preperitoneal lipomas should be considered in the diagnosis of lower abdominal pain and can be minimally invasive resected via preperitoneal laparoscopic approach in day clinic.

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Introduction

Lipomas are benign adipose tissue tumors that can vary in size and location. They typically present as slow-growing, non-invasive masses beneath the skin, consisting of mature adipose tissue [1]. Although considered benign, the potential for lipomas to mimic more concerning lesions, such as sarcomas, underscores the importance of accurate diagnosis and appropriate management. Larger unspecified masses warrant a more thorough workup. Magnetic resonance imaging (MRI) is recommended for all soft-tissue masses located deep to the fascia or exceeding 5 cm in subcutaneous tissue [2]. Despite their relatively common occurrence, lipomas remain a subject of clinical interest due to their unpredictable growth patterns, potential cosmetic concerns, and occasional association with various underlying genetic conditions. In this case report, we introduce a novel minimally invasive technique for resecting a preperitoneal lipoma.

Case Presentation

A 36-year-old female presented at our outpatient clinic with nonspecific left fossa pain. She had been referred by her gynecologist due to fertility issues. The pain was unrelated to movement or physical activity, and clinical examination revealed no abnormalities, ruling out an inguinal hernia. A CT scan detected a large lipoma (41 × 43 × 57 mm) in the left fossa. To further investigate its origins and its relation to surrounding tissues, an MRI scan was performed. This revealed a substantial preperitoneal lipomatous lesion (61 × 58 × 40 mm), which compressed the bladder, left fallopian tube, and surrounding blood vessels (Figure 1). After careful deliberation with the gynecologist, general surgeon, and the patient, it was decided to delay surgical intervention until after her next pregnancy. Following a healthy cesarean section delivery, the patient continued to experience left lower fossa pain, leading to the decision to resect the lipomatous mass.

*Correspondence to: Willem Pype, Department of General, Vascular and Pediatric Surgery AZ Sint-Jan Brugge, Ruddershove 10, 8000 Brugge, Belgium; Tel: +3250452560; E-mail: willem.pype@azsintjan.be



Figure 1: MRI showing the preperitoneal lipomatous lesion.

The surgery was performed using a preperitoneal laparoscopic approach. An infra-umbilical incision was made, the anterior rectus sheath was opened, and the rectus muscles were pulled laterally to insert a balloon trocar. The borgroz space and the retzius space were accessed through blunt dissection. The lipoma was located in front of the obturator canal, adhering to the parietal peritoneum and the round ligament of the uterus. The lipoma was then meticulously separated from surrounding tissue and extracted using an endobag. The patient recovered well and was discharged the same day. Postoperative follow-up was uneventful, and the pathology report confirmed complete resection of the benign lipoma without any signs of malignancy.

Discussion

Lipomas, benign mesenchymal tumors composed of soft tissue fat, are the most common of their kind. They typically grow slowly and are commonly found under the skin in areas such as the neck, shoulders, arms, back, abdomen, and thighs [1]. However, on occasion, lipomas may develop in deeper locations or originate within muscle tissue. While lipomas only affect 1% of the population, their true prevalence is likely underestimated. These benign tumors are most commonly observed in adults, with a higher incidence in men than women. Typically, lipomas present as small round masses, usually less than 5 cm in size, and are harmless unless they exert pressure on an organ. Importantly, the

prognosis for lipomas is very favorable, with a rare chance of recurrence after surgical removal [10]. Magnetic resonance imaging is recommended for all soft-tissue masses located deep to the fascia or exceeding 5 cm in subcutaneous tissue. Atypical lipomatous tumors present as large deep fatty masses, with a propensity for local recurrence and a small risk of malignant transformation [2].

Only seven cases of symptomatic preperitoneal lipomas have been reported in the English literature, as shown in (Table 1). Of these, six patients presented with abdominal pain and one patient with dysuria. Our case involved abdominal pain. In all cases, the lipomas were either large or symptomatic, leading to their resection via open or laparoscopic approaches. To the best of our knowledge, our case represents the first description of resecting a large symptomatic lipoma through a preperitoneal laparoscopic approach. Additionally, it is the first case in which this procedure was performed in a day clinic setting, highlighting the advantages of the minimally invasive approach. No sutures or fixation devices were required to close the peritoneum, minimizing postoperative pain. This allowed the patient to return home the same day without the need for an extended hospital stay.

In conclusion, this case demonstrates the feasibility of completely and safely resecting large symptomatic preperitoneal lipomas or masses via a preperitoneal laparoscopic approach in a day clinic setting.

Table 1: Literature reviews discussing the treatment of a lipoma in the parietal peritoneum.

Year	Reference	Age (years)	Sex	Presentation	Surgical Procedure	Maximum diameter (cm)
2006	Barut <i>et al.</i> [3]	67	Female	Abdominal pain, nausea vomiting	Open	6
2014	Bang <i>et al.</i> [4]	75	Male	Abdominal pain, palpable mass	Open	4.5
2014	Shresta <i>et al.</i> [5]	32	Male	Abdominal pain	Laparoscopy	3
2014	Sathkrishna <i>et al.</i> [6]	21	Female	Abdominal pain	Laparoscopy	-
2016	Salgaonkar <i>et al.</i> [7]	73	Male	Abdominal pain	Laparoscopy	6.3
2018	Choi <i>et al.</i> [8]	36	Male	Urinary frequency	Laparoscopy	22
2022	Yan <i>et al.</i> [9]	33	Female (pregnant)	Abdominal pain	Open	6

Conflicts of Interest

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