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Case Report

Primary broad ligament fibroid: a case report with review of the literature

Basanta M. Hota*, Kavitha Bakshi, Teja R. Pandiri, Yallamandla Devisri

Department of Obstetrics and Gynaecology, Mamata Medical College, Khammam, Telangana, India

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***Correspondence:**
Dr. Basanta M. Hota,
E-mail: drmanjarihota@gmail.com

ABSTRACT

Fibroids are benign tumors with minimal malignant potential arising from estrogen-sensitive smooth muscles, which can be uterine and extrauterine in origin. The broad ligament is the most common site for extrauterine fibroids, and it is differentiated into primary and secondary. A fibroid arising from smooth muscles in the broad ligament without attachment to the uterus or connected to it by a vascular pedicle is classified as a primary broad ligament fibroid. Its significance lies in the retroperitoneal location in the parametrium, which distorts the anatomy and affects the surrounding viscera, making diagnosis as well as surgical management challenging. Patient is usually asymptomatic or has vague pain abdomen and bloating unless it grows to a large size, putting pressure on the ipsilateral ureter and bladder, and an abdominal mass may be detected, pushing the uterus to the other side, and development of symptoms. Diagnosis is usually incidental during pelvic surgery for other pathology. Neither clinical nor imaging studies can differentiate it from an adnexal mass. Treatment is myomectomy by laparotomy or a minimally invasive approach. In both methods, the procedure is high risk for injury to the ipsilateral ureter and uterine vessel and blood loss due to more tissue dissection. Preoperative planning and preparation in suspicious cases, and an experienced surgeon with adequate knowledge of pelvic anatomy, is the solution to avoid complications. Our patient, a 47-year-old parous premenopausal lady, reported to this institution with dragging pain abdomen with bloating was found to have a fibroid uterus and underwent total laparoscopic hysterectomy, during which a primary broad ligament fibroid of 09×07 cm was detected incidentally, and myomectomy was done. The presentation aims to report the rare case and add to statistics, to highlight the asymptomatic nature of the tumor and the challenging diagnosis, and its management.

Keywords: Estrogen, Smooth muscle, Broad ligament, Myomectomy

INTRODUCTION

Fibroids, or myomas, or leiomyomas, are the common neoplasms of the uterus, and the majority of them originate from the uterus. Extrauterine fibroids are rare. Broad ligament fibroid (BLF) with uterine origin and growing in between both the folds of the ligament in the parametrium is secondary where as such fibroid without uterine attachment by any means and arising in hormonally sensitive smooth muscle fibers along with connective tissue and neurovascular component in broadligament are primary broadligament fibroid (PBLF).[1] The incidence of the tumor is <01% of all fibroids.[2] Being estrogen dependent, it is mostly a tumor in reproductive life, and depending on size, patients may be asymptomatic to pelvic discomfort, pain, pressure effect on other pelvic viscera.[3] Usually associated with uterine fibroids, causing other symptoms.[4] Ovarian tumor, secondary broad ligament fibroid, and pedunculated uterine fibroid are the differential diagnoses, as all of them clinically felt like an adnexal mass and are more common in occurrence.[5,6] All types of imaging usually fail to confirm the diagnosis, though magnetic resonance imaging is better than computerized tomography for it.[7] Surgery is the treatment, and it makes the definitive diagnosis by noting the origin of the tumor in the broad ligament, non-attachment to the uterus, negative vessel bridge, and lateral to the ureter and uterine artery. Histopathology of the tumor is mandatory

to exclude malignancy and for histological diagnosis. We present a case of primary broad ligament fibroid found incidentally during total laparoscopic hysterectomy and bilateral salpingectomy. The presentation aims to highlight the challenging diagnosis and surgical management, the rarity of the pathology, and to add to the statistics.

CASE REPORT

A 47-year-old parous, premenopausal lady reported to the gynecological outpatient department of the institution with complaints of dragging pain in the lower abdomen on the right side, abdominal bloating, and frequent micturition without other features of urinary tract infection for the last 10 days. She attended menarche at the age of 12 years, menstrual history was 2-3/30 days, regular, normal flow, and no pain. Her last menstrual period was 22 days ago. She is para two with normal vaginal delivery and tubectomised 22 years back following the second delivery. Her medical, family, and personal history are not relevant to her present complaints. On examination, she was physically and mentally healthy. General examination revealed normal vital parameters. There was no pallor, icterus, or lymphadenopathy. Her thyroid and breast examination, cardiovascular, respiratory, and central nervous system did not have any clinically detectable abnormality. Patient's abdomen was soft, non-tender, with no mass lesion and without evidence of free peritoneal fluid. The tubectomy scar was healthy. Perspeclum examination showed cervical erosion with curdy white non-foul-smelling discharge. Papanicolaou (PAP) smear and cervical biopsy were taken. Bimanual examination (BME) demonstrated an irregularly enlarged, retroverted, firm, mobile, and non-tender uterus. A non-tender, firm mass was felt in the posterior and left fornices. Cervical movement was non-tender. Per-rectal examination confirmed the findings of BME. With the provisional diagnosis of a fibroid uterus, the patient was investigated. Her complete blood count, blood sugar, and urine examination were within normal limits. Transabdominal and transvaginal ultrasonography (USG) reported a subserous fundal fibroid of 05×04 cm towards the left cornual region, endometrial thickness of 06 mm, and no other significant findings. Her Pap smear reported inflammatory, and malignancy was excluded in both the cytology and the cervical biopsy. Patient was further evaluated for laparoscopic total abdominal hysterectomy with bilateral salpingectomy (TLH-BS) and counselled for oophorectomy and other procedures if required, including complications that may arise. Intraoperatively, the uterus was 08 weeks pregnancy size, a subserous sessile fundal fibroid of 4×4 cm, a little towards the left cornual region, and one more small sessile subserous fibroid in the body of the uterus were found. There was a primary broad ligament fibroid of 09×07 cm, which was detected on the right side. It was well circumscribed and bosselated in appearance, as shown in Figure 1. Both ovaries and fallopian tubes appeared healthy. The PBLF was approached after resecting the round ligament from the uterus. Nonattachment of the mass to the uterus, as well as the absence of a vascular pedicle connecting it to the uterus, was confirmed. Though not very big in size, the dissection of the mass was done carefully, keeping a distance from the right ureter, and the fibroid was excised. TLH with bilateral salpingectomy was completed in the usual way, and the specimen is shown in Figure 2. Blood loss was within normal limits. Her intra and postoperative periods were uneventful. Histopathological examination of the specimen confirmed the diagnosis and excluded malignancy. On follow-up, the patient is healthy and doing well.

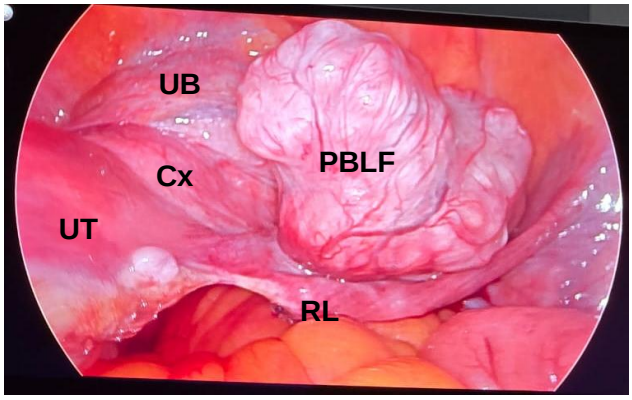

Figure 1: Primary broad ligament fibroid (PBLF).
UT-Uterus, Cx-cervix, UB-urinary bladder, RL-round ligament

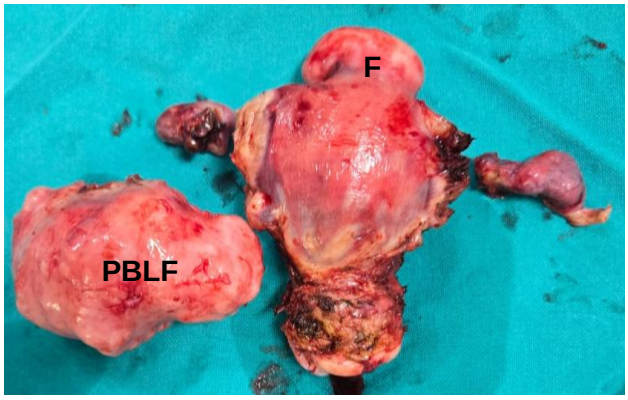

Figure 2: Postoperative specimen showing the uterus with fibroids (F), both the fallopian tubes, and the primary broad ligament fibroid (PBLF).

DISCUSSION

PBLF is the commonest mesenchymal tumor at the site between the two folds of the broad ligament. As it is estrogen dependent, and usually associated with uterine fibroids, which were present in this patient.[4] Patients, in most cases, are asymptomatic or have vague symptoms like dull abdominal pain and flatulence, and so our patient had dragging pain in the right iliac fossa with bloating of the abdomen.[9] The location of the tumor and its size determine the symptoms.[10,11] She did not have many pressure symptoms except frequent micturition as the fibroid was not very large but pressing on the bladder. Neither clinical examination nor imaging by USG could

diagnose the PBLF in the patient, but it was diagnosed only intraoperatively.[8] The fibroid in this patient did not have a vascular pedicle, nor was it attached to the uterus.[1] She did not have abnormal uterine bleeding, as uterine fibroids were subserous. Degenerative changes in PBLF are likely due to reduced blood supply and are usually not related to symptoms.[12] Surgical treatments in PBLF is a challenge with complications, though enucleation of the tumor in our patient was not very difficult as it was neither very large nor pressing or adherent to the ipsilateral ureter.[13] The Identification of the course of the ureter is crucial to protect the viscera from injury.[10] Excessive blood loss was not there, as too much dissection was not required. The incidental diagnosis and management of this PBLF averted a disastrous surgery in the future with high risk of complications, as it has the potential to grow to a large size.[14] It is a rare benign tumor with minimal malignant potential, like a uterine fibroid. So, histopathological examination is mandatory, and it also confirms the diagnosis of leiomyomas. In our patient histological diagnosis was confirmed as leiomyomas, and malignancy was excluded.

CONCLUSION

Primary broad ligament fibroid is a rare pathology. The patient becomes symptomatic when it enlarges to affect the nearby viscera with pressure. Clinical as well as imaging diagnosis is challenging. Surgery is the treatment, and the type of surgery depends on the associated pathology in her genital organs and reproductive requirements. As there is a high risk of visceral injury and blood loss, adequate preoperative planning and preparation, and a surgeon of high volume are the solutions for better outcomes.

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