

Round Ligament Fibroid: A Case Report

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Abstract

Background: Round ligament fibroids are rare benign tumors that might manifest as vulvar, adnexal, or inguinal masses primarily because of their anatomical extension.

Case Report: A 44-year-old lady who was not a known case of any medical illness was referred to the outpatient clinic in May 2022, after an incidental ultrasound finding of a subserosal fibroid. Upon examination, a hard mass was felt in the suprapubic area around 12 weeks size, yet due to the obese body type, proper examination was not possible. An ultrasound scan of the pelvis revealed multiple fibroids in the uterus, measuring 7x6 cm anteriorly, 4.5x3.5 cm posteriorly, and fundal 4.2x2.4 cm. After 12 months of conservative follow-up, another pelvic ultrasound scan was done, which revealed an anteverted bulky uterus measuring 11.9 x 8 cm, with multiple fibroids, the largest measuring 4.8x 4.5 cm at the lower uterine segment and 5.5x 4 cm at the fundus. These findings suggested a growing sessile subserosal uterine fibroid with extensions, dimensions, and relations. Finally, the patient was diagnosed with leiomyoma with cystic and hyaline degeneration, negative for atypia and malignancy. Laparotomy myomectomy was done, and the specimen consisted of a single oval mass weighing 410 gm and measuring 11x8x7.5 cm.

Conclusion: The diagnosis of round ligament fibroid is often challenging due to its anatomical position.

Keywords: Round ligament fibroid, laparotomy myomectomy, leiomyoma, case report

Introduction

Round ligament fibroids are rare, benign tumors are exceedingly rare, with about 300 cases previously published in the literature on tumors. These might manifest as vulvar, adnexal, or inguinal masses primarily because of their anatomical extension [1-3]. Most of these tumors affect older, premenopausal women. A malignant adnexal mass or an inguinal hernia may mimic palpable tumors in the inguinal region in certain situations, whereas the majority of cases are asymptomatic. [4-5]. Magnetic resonance imaging (MRI) or ultrasonography (US) can be used to establish the preoperative diagnosis [6-8].

This case report presents a round ligament fibroid that was treated with laparoscopic surgery after an incidental ultrasound finding of a subserosal fibroid [9].

Case Report

A 44-year-old lady who was free of any medical illness was referred to the outpatient clinic of Al-Kharj Armed Forces Hospital, Al-Kharj City, Saudi Arabia in May 2022, after an incidental ultrasound finding of a subserosal fibroid measuring 10x7 cm.

The patient had visited a private clinic complaining of increased body weight despite diet control and was eventually referred by the dietician to the gynecologist to rule out hormonal factors. The patient then stated that she had been experiencing abnormal uterine bleeding in the form of oligo/hypomenorrhea which the patient herself alluded to the age factor. The patient has been a single nullipara with regular menstrual cycles since menarche.

General examination was unremarkable; abdomen examination revealed a hard mass felt in the suprapubic area at about 12-weeks. However, due to the obese body type, proper examination was not possible.

Results of laboratory investigations, such as blood tests, were within normal range. An ultrasound scan of the pelvis revealed multiple fibroids in the uterus. Subsequently, the patient was counseled regarding different treatment modalities, of which conservative management was opted.

US Scan 1

An ultrasound scan of the pelvis done by a radiographer revealed multiple fibroids in the uterus, measuring 7x6 cm anteriorly, 4.5x 3.5 cm posteriorly, and fundal 4.2x 2.4 cm.

US Scan 2

The patient presented again in July 2023 complaining of pressure symptoms in the form of lower abdominal and back pain, urinary hesitancy, and frequency; complaints relating to the menstrual cycle were not presented. After 12 months of conservative follow-up another pelvic US was done which revealed an anteverted bulky uterus

measuring 11.9x8 cm, with multiple fibroids, the largest measuring 4.8x4.5 cm at the lower uterine segment and 5.5x4 cm at the fundus.

The sonographer recommended other treatment modalities for further evaluation and definitive diagnosis. Thus, MRI was requested and the doctors elaboratively counseled the patient regarding the advantages and downsides of both the medical management and the surgical management of her condition. The patient, however, refused the medical management fearing the side effects, and wanted to continue with the conservative management.

MRI Scan

MRI revealed a well-defined rounded oval-shaped soft tissue lesion with a maximum dimension measuring 8.5x10x12.5 cm. Positioned anterior to the uterus and superior to the urinary bladder dome in the midline, heterogeneous iso-to-low T1, iso-to-high T2 signal intensities combined with heterogeneous post-contrast uptake, and internal matrix areas with cystic degeneration. The lesion smoothly compressed the dome of the urinary bladder inferiorly, splaying on the rectum small bowel loops over its outline and mildly splaying hemorrhage was displayed in gradient-weighted images. The lesion was associated with slight free fluid signal intensity within the pelvis and cul-de-sac.

These findings suggested a sessile subserosal uterine fibroid with extensions, dimensions, and relations as described above. This lesion appeared incidentally in a previous lumbar spine MRI done in August 2023 and there were no significant size changes.

After the MRI findings were explained to the patient, she opted for surgical intervention because the symptoms were consistently progressing.

Treatment Plan: Laparotomy myomectomy

The laparotomy myomectomy was done on 19 December 2023, which went uneventfully and uncomplicated. However, the intraoperative findings were surprising. A normal-sized uterus, normal ovaries, and normal fallopian tubes were revealed. Intra-peritoneal clear ascitic fluid and a large hard fibroid measuring 11 cm long, with a 3 cm wide peduncle arising from the medial part of the round ligament adherent posteriorly to the mesenteric part of the large intestine was found. Adhesions were lysed and the fibroid was excised and sent for histopathology. Peritoneal ascitic fluid was also sampled for cytology, and peritoneal washing was done further.

Histopathology report

Gross Description: The specimen comprised a single oval mass weighing 410 gm and measuring 11x8x7.5 cm (Figure 1). The specimen was inked blue. Sectioning revealed a white whorly homogenous cut section. Microscopic examination description of the prepared section confirmed a well-defined mass composed of bundles of benign-like smooth muscles intermingled with connective tissue.

Figure 1: Benign fibroid measuring 11x8x7.5 cm, weighing 410 gm removed with the round ligament adherent to the fibroid



The examination further affirmed the presence of dilated congested blood vessels lined by flat endothelial cells, hemorrhaged stellate area, hydropic degeneration, and cystic degeneration. Finally, the patient was diagnosed with leiomyoma with cystic and hyaline degeneration, negative for atypicality and malignancy.

On the first postoperative day, she was discharged following an uneventful recovery period. Leiomyoma with cystic and hyaline degeneration was the ultimate histologically determined diagnosis.

Discussion

The laparoscopic intervention for our patient showed the round ligament, one of the uterine supporting ligaments extending from the uterine musculature and mainly consisting of smooth muscle fibers, connective tissue, vessels, and nerves. Its blood supply was traced to be derived from a small branch of the uterine or ovarian artery known as the Sampson artery extension [1-2].

Fibroids are common benign tumors with an incidence of 77% in hysterectomy specimens. These fibroids may arise because of somatic mutation of smooth muscle and

complex interaction between sex steroids and growth factors mainly estrogen[9]. However, round ligament fibroids are rarely seen. Round ligament fibroid can present with adnexal neoplastic masses, inguinal hernia [2] inguinal mass, [4] or vaginal mass with a low rate of painful symptoms. Because of their placement, these fibroids typically mimic other pelvic tumors, ovarian cysts, lymphadenopathies, and inguinal hernias [10-11].

The size and location of the tumor affect the symptoms. Most of these tumors are asymptomatic as in this case. The preoperative diagnosis was initiated with ultrasonography and magnetic resonance imaging though the findings were challenged because the anatomic location was near the uterus and ovary [7].

The US and MRI primarily suggested a sessile subserosal uterine fibroid which further was diagnosed as leiomyoma with cystic and hyaline degeneration. Literature indicates that laparotomy is one of the most supported laparoscopic interventions in cases such as this one. About 20% to 30% of premenopausal women have leiomyomas, which are frequent benign uterine tumors [12]. The laparoscopic intervention was opted in this case as the first choice which is safe and feasible in this new era of minimal invasive surgery [9, 13-14].

Conclusions

The diagnosis of the round ligament fibroid is often challenging due to its anatomical position. Moreover, it could exist and be asymptomatic. However, further to pre-operative diagnosis, laparoscopic intervention is accounted as the most feasible and minimally invasive.

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