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Case Report

The solid surprise: laparoscopic discovery of an ovarian fibroma – a case report

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ABSTRACT

Ovarian fibromas are uncommon benign sex cord–stromal tumours arising from the ovarian cortex. Although they predominantly occur in peri- and postmenopausal women, they may also present in younger patients. Their solid nature and occasional association with ascites or elevated tumour markers can mimic ovarian malignancy, making preoperative diagnosis challenging. Herein, this case reports the case of a 35-year-old multiparous, tubectomised woman who presented with abdominal pain, distension, and vomiting. Clinical examination suggested a subserosal uterine fibroid. Ultrasonography revealed a solid left ovarian mass measuring 10×5 cm with preserved vascularity and no features of torsion. Serum CA-125 levels were within normal limits. Due to diagnostic uncertainty, diagnostic laparoscopy was performed, which revealed a solid ovarian mass arising from the left ovary. Left salpingo-oophorectomy was undertaken. Histopathological examination confirmed the diagnosis of ovarian fibroma. The postoperative course was uneventful. Ovarian fibroma should be considered in the differential diagnosis of solid adnexal masses, even in younger, premenopausal women. Preoperative distinction from malignant ovarian tumours remains difficult using clinical and ultrasonographic features alone. Surgical excision remains both diagnostic and therapeutic, with laparoscopy offering a safe and effective approach in carefully selected cases.

Keywords: Ovarian fibroma, Solid adnexal mass, Sex cord–stromal tumour, CA-125, Laparoscopy, Meigs syndrome

INTRODUCTION

Ovaries can be the site of a variety of benign and malignant tumours. Ovarian fibromas are tumours originating from the connective tissue of the ovarian cortex and include three pathological subtypes: fibroma, thecoma, and fibrothecoma.[1] Ovarian fibroma are sex cord stromal cell tumours, and they are the most common benign solid tumours, constituting about 3% of ovarian tumours, and are non-hormone-secreting tumours most common in the peri and postmenopausal age group. They grow slowly and can achieve a large size up to 30 cm. They are unilateral in 90% and bilateral in 10% cases. These tumours are mostly asymptomatic and are diagnosed very late. In some cases, they may undergo torsion and manifest clinically with acute surgical abdomen, while in 1% cases, they may be associated with ascites and pleural effusion, as in Meigs syndrome.[2,3] Ovarian fibromas with elevated blood serum CA125 levels is rarely encountered in clinical practice and is very likely to be misdiagnosed as epithelial ovarian carcinoma, particularly when it concerns menopausal patients.[4]

The present case report highlights the significant difficulties related to the diagnosis and therapeutic approach of ovarian fibroma.

CASE REPORT

A 35-year-old multiparous tubectomised woman presented to the gynaecology outpatient department with abdominal pain for 15 days, abdominal distension for 4days and vomiting for 3 days. On examination, the abdomen was soft, and mild tenderness was noted in the left iliac fossa with no guarding or rigidity. Per speculum examination showed a bulky cervix, and on bimanual examination

uterus was bulky, mobile, and non-tender, a mass of 7×5 cm with firm to hard consistency was felt separately from the uterus, in the anterior fornix with mobility in all directions.

A clinically probable diagnosis of a subserosal fibroid was made. Ultrasonography (USG) pelvis was done, which showed a bulky left ovary measuring 10×5 cm in size with volume of 150 cc, in midline with subcentric arranged follicles, and colour doppler showing both arterial and venous wave forms with no features of torsion (Figures 1 and 2).

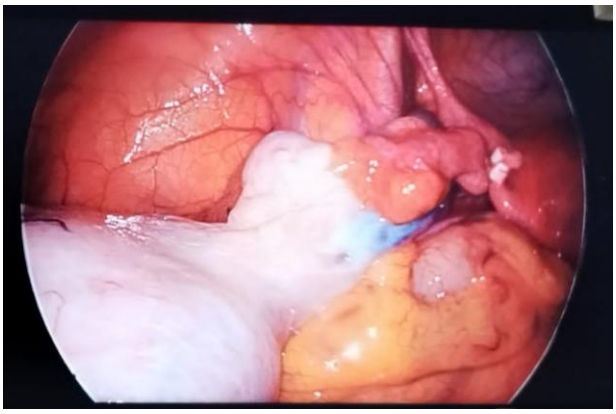

Figure 1: Laparoscopic image of ovarian fibroma.

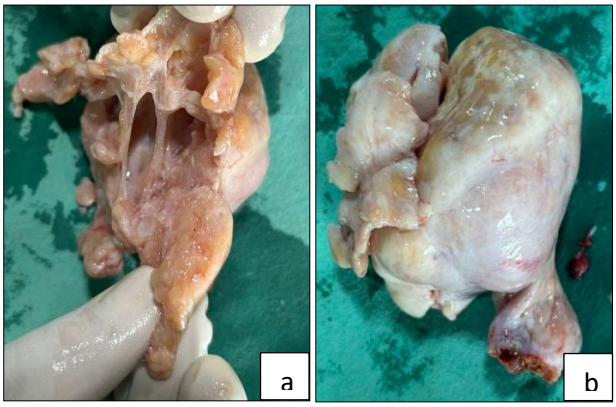

Figure 2 (a and b): Gross specimen of ovarian fibroma.

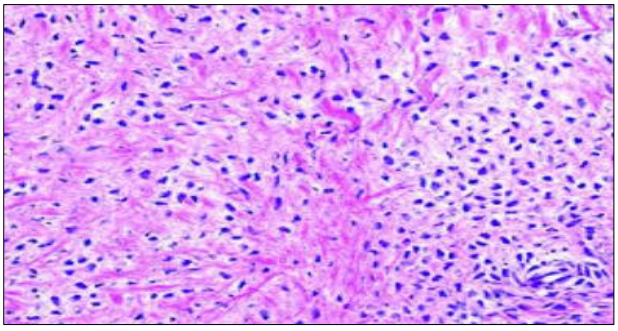

Figure 3: Ovarian fibroma histopathology.

CA 125 levels were sent, and it was 16.1. She was treated with analgesics and antibiotics. Due to a disparity in diagnosis by clinical examination and USG report, she was posted for diagnostic laparoscopy. Intraoperatively solid mass of 6×6 cm was noted in the midline, anterior to the anterior surface of the uterus, arising from the left ovary; no features of torsion were noted. Left salphingoophorectomy was done and sent for HPE, which showed features of ovarian fibroma (Figure 3). No intra- and postoperative complications were noted, and she was discharged on post op day 3.

DISCUSSION

The clinical-laboratory diagnosis of ovarian fibromas is not easy. The median/mean age of presentation in many series is perimenopausal or post-menopausal (mean age was 45 years in Leung and Yuen's series of 23 patients), but importantly, younger ages (including pre-menopausal) are also described.[5]

Symptoms are often non-specific: many are asymptomatic and discovered incidentally, or present with abdominal discomfort/pain, pelvic mass, bloating or distension. In Leung's review, 43.5% had abdominal pain. They may present with features of ovarian torsion. The imaging appearance of ovarian fibromas is variable: on ultrasound, they may appear as solid adnexal masses, sometimes with heterogeneous or cystic areas, and colour Doppler may not reliably differentiate them from malignant masses. Today, magnetic resonance imaging is undoubtedly the most accurate imaging technique in the characterisation of ovarian masses.[6]

The fact that CA-125 was normal is in keeping with many fibroma cases; however, an elevated CA-125 can mislead to a diagnosis of epithelial ovarian carcinoma. In the cohort of 580 fibroma/fibrothecoma patients by Shen et al, 11.3% (66/580) had elevated serum CA-125, and they found that tumour diameter ≥10 cm and presence of ascites were independent factors for elevated CA-125 (but immunohistochemistry showed the tumour cells did not express CA-125, so the marker elevation was likely "non-tumour-originated").[7]

An additional diagnostic pitfall is the association of ovarian fibroma with the triad of ascites and pleural effusion known as Meigs syndrome. When present (albeit rare), this may lead to suspicion of malignancy. The literature indicates that only ~1% of benign ovarian tumours produce Meigs syndrome.

Because of the preoperative uncertainty (i.e., the inability to reliably exclude malignancy in a solid ovarian mass, especially with size or elevated markers), surgical excision remains the mainstay of management for ovarian fibroma. In the 2006 Leung and Yuen series, 18/23 cases underwent laparotomy and 5/23 underwent laparoscopy. In the more recent 2025 study of 286 patients, in the pre-menopausal cohort, laparoscopy was the preferred approach for smaller

tumours (mean size ~4.08 cm in the laparoscopy group versus 7.89 cm in the laparotomy group) and or unilateral salpingo-oophorectomy was common.[8] Laparoscopy is the standard diagnostic and therapeutic tool for adnexal mass assessment with low risk for malignancy.[9] Given the benign nature, the prognosis after complete excision is excellent, and recurrence is rare. However, intra-operative vigilance is still required because unusual features of large size, necrosis, unusual adhesion, and torsion may complicate management and drive the need for more extensive surgery.

CONCLUSION

In summary, our case of ovarian fibroma in a 35-year-old reinforces the need to consider this diagnosis in the differential diagnosis of solid adnexal/uterine masses, particularly in younger women. The absence of ascites/pleural effusion and normal tumour marker profile made the preoperative diagnosis more favourable, and a laparoscopic fertility-preserving approach worked successfully. Clinicians should maintain a high index of suspicion, use imaging and markers judiciously, and tailor the surgical approach based on individual tumour characteristics and patient fertility desires.

For clinicians encountering a solid adnexal/ovarian mass, especially in younger or pre-menopausal women, the possibility of ovarian fibroma should be kept in mind. Detailed ultrasound evaluation (size, solid/cystic, vascularity, relationship to ovary/uterus) should be done. Consider magnetic resonance imaging (MRI) if the diagnosis is uncertain and malignancy must be excluded (typical low-T2 fibrous appearance).

Tumour markers like CA-125, HE4B may be done, but interpret cautiously (normal markers do not exclude malignancy; elevated markers may still be benign as in fibroma/fibrothecoma). Assess for ascites or pleural effusion (to consider Meigs syndrome).

In planning surgery, if preoperative risk seems low (moderate size, unilateral, no ascites/pleural effusion, benign imaging features, normal/low markers), then minimally invasive, fertility-preserving surgery (unilateral salpingo-oophorectomy) can be considered.

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