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Unraveling Ovarian Fibroma: A Diagnostic Journey in an Infertile 38-Year-Old Women

Yasmeen Gul, Noman Sadiq, Nasrin Mumtaz

ABSTRACT

A 38-year-old woman approached with nine months of abdominal pain, discomfort, concerns regarding infertility therapy, and a history of laparotomy 3 years prior for suspected ectopic pregnancy. The patient has a history of normal menstrual cycles and a body mass index of 22. She was hospitalised for additional testing after a transvaginal ultrasound revealed a mass in the right ovary. Magnetic resonance imaging revealed a right ovarian multifocal fibrosing tumour with no ascites. The right ovary tumours were removed through a laparotomy, while at least half of the left ovary was saved for potential future fertility. Histopathology analysis of the tissue samples confirmed the presence of a right ovarian sex cord-stromal tumour. The presence of calcification in the fibroma and the presence of cells that lack mitotic activity, nuclear atypicality, or necrosis establish the diagnosis of ovarian fibroma. The patient did well following surgery and began menstruating normally at her one-month post-op checkup.

Keywords: Ectopic Pregnancy, Fibroma, Infertility, Ovarian Tumour.

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CASE DESCRIPTION

A 38-year-old woman who had a laparotomy three years prior for a ruptured ectopic pregnancy and had been experiencing abdominal pain and discomfort for the past nine months and was worried about undergoing infertility treatment presented to the gynaecology outpatient department. The patient gave a history of normal menstrual cycles. Her body mass index of 22. Ovarian cyst with complications is the initial provisional diagnosis. transabdominal ultrasound revealed a mass in the right ovary. a substantial adnexal tumour on her right side was detected by vaginal ultrasonography and Doppler, but her ovarian blood flow was unaffected. She was admitted for further evaluation. A solid mass, measuring 8 cm 6.5 cm, was clearly visible on the Right side of the pelvis during the MRI scan, suggesting that it was a hemorrhagic mass originating from the Right ovary. The patient consented to exploratory laparotomy and, if necessary, to surgically remove the ovarian tumour while preserving as much ovarian tissue as possible. Preoperative tests were performed in accordance with hospital protocol and showed no abnormalities: complete blood picture (Hb: 10.5 gm/dl, TLC: 6.500/mm3, and platelet count 284,000/mm3), liver (AST: 20 IU/l and ALT: 30 IU/l), kidney function tests (serum creatinine 0.9 mg/dl and blood urea nitrogen 18 mg) and normal PT/APTT and INR. Her tumour markers profile showed: CA-125 was 25 IU/ml, inhibin B was 55 pg/ml, and anti-Mullerian hormone was 1,5ng/ml. Moreover, she had normal levels of free beta-Chorionic Gonadotropin (beta-HCG), Alpha-Fetoprotein (AFP) and Carcinoembryonic Antigen (CEA). An exploratory laparotomy revealed an 8cm x 6.5cm solid ovarian tumour originating from the Right ovary. The left ovary was looking normal, but it was adherent to the uterus and gut, probably due to her previous surgery for ruptured ectopic pregnancy. adhesiolysis was performed. The uterus was looking completely normal. The lump on the right ovary was removed, but the left ovary was saved for fertility purposes The excised mass was sent for histopathology. The microscopic examination of mass showed intersecting and anastomosing bundles and fascicles of spindle cells without mitotic activity, nuclear atypia or necrosis, confirming the ovarian fibroma diagnosis. Immunohistochemical status was performed, which shows Inhibin [positive], Calretinin [focal positive], CD99 [positive] ASMA [negative], and Dessmin [negative]. The patient was discharged on the 3rd postoperative day first follow-up after one month of surgery. She has already experienced her menstrual period. Further, follow-up is scheduled every three months for the recurrence of the fibroma and the ovarian reserve markers.

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Figure A: Low power view of cellular fibroma composed of intersecting fascicles of spindle cells

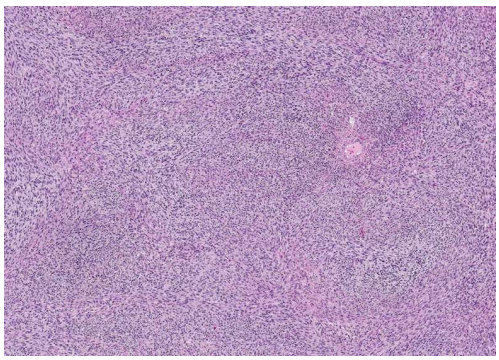
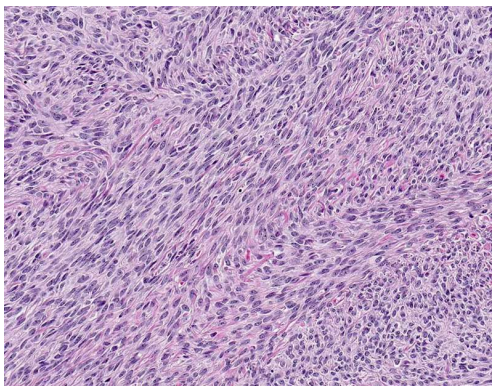


Figure B: High-power view of spindle cells with no cytologic atypia



DISCUSSION:

About 7% of all ovarian tumors are found in the sex cord stroma, but this subtype of ovarian cancer is extremely rare. One per cent to four point seven per cent of all ovarian tumours are fibromas.[1] Most fibromas are endocrine-inactive because they are made up of spindle-shaped stromal cells that secrete a collagenous stoma.[2] Although fibromas are most common in women in their late reproductive years, they can develop at any age; however, they are extremely uncommon in patients younger than 30.[3] Thecoma-fibroma type tumours account for less than 2% of all paediatric ovarian masses, according to the literature.[4-5] Fibroma-type masses are extremely uncommon in children. The size of a fibroma can vary greatly. Small lesions are often asymptomatic, but ovarian torsion may cause pelvic discomfort or severe abdominal pain in women as they grow. In the classic Meigs' syndrome (hydrothorax, ascites, and benign ovarian tumour), fibromas can be misdiagnosed as cancer and usually disappear once the tumour is removed.[6] Ascites is a reliable indicator that the tumour size is growing. They are typically harmless, but malignant progression has been reported.[1] A 24-year-old woman with a 15-cm unilateral ovarian fibroma was successfully treated by Najmi et al. via laparoscopic resection with ovarian preservation. When the preoperative diagnosis is unclear, they concluded that either laparoscopically or laparotomy could be used to remove the ovarian fibroma.[7] Ovarian fibromas, though benign, require surgery for treatment. This procedure typically involves open surgical access and the removal of the ipsilateral adnexa. It is estimated that 2% of cases will experience a recurrence.[8-9] The best preoperative strategy for ovarian tumours is still based on clinical, ultrasonographic, and tumour marker data. Doppler Ultrasound Imaging is the preferred method of investigation. In order to better characterize and differentiate from other solid ovarian masses, CT and MRI are often necessary.[10] The recommended procedure is surgical excision followed by an intraoperative frozen section. It is advised to perform an immunohistochemical analysis to rule out other possible diagnoses. A pathologist can only confirm the final diagnosis of fibroma via histopathology of the resected sample.[11] In our case the histological analysis, revealed that our patient's tumour was a benign fibroma composed entirely of fibrous tissue. We spared one of our patient's ovaries considering her age and wish to conceive. She began menstruating unexpectedly soon after the operation.

CONCLUSION:

Due to the rarity and difficulty of making a diagnosis preoperatively, ovarian fibromas are typically diagnosed through surgical removal and subsequent histological examination. As more and more evidence of these tumours is revealed in the literature, the debate surrounding their existence must be put to rest through an up-to-date literature review. When treating adnexal tumours in young girls and women, fertility preservation should be considered.

Authors Contribution:
Yasmeen Gul: reviewed all the cases for inclusion, data collection, drafted this article
Noman Sadiq: conceptualized and supervised the study, reviewed all the cases for inclusion,
Nasrin Mumtaz: Data Collection

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