INTERNATIONAL JOURNAL OF CURRENT MEDICAL AND PHARMACEUTICAL RESEARCH
ISSN: 2395-6429, Impact Factor: 4.656
Available Online at www.journalcmpr.com
Volume 7; Issue 06(A); June 2021; Page No.5836-5838
DOI: http://dx.doi.org/10.24327/23956429.ijcmpr20211025

Case Report

UNILATERAL OVARIAN FIBROMA IN 20 YEAR OLD NULLIGRAVIDA: CASE REPORT

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ARTICLE INFO

Article History:
Received 6th March, 2021
Received in revised form 15th April, 2021
Accepted 12th May, 2021
Published online 28th June, 2021

Key words:
Ovarian Fibroma, Benign tumor, Diagnosis

ABSTRACT

Ovarian Fibroma is a rare benign sex cord stromal tumor of the ovary. Fibroma are most frequently seen in middle aged women. Pelvic pain is the most common symptom of ovarian fibroma. Tumor can reach a large size at presentation. Ovarian fibroma usually misdiagnosed preoperatively as uterine leiomyoma. We present an unusual case of fibroma of the ovary presenting at 20 years of age, less than the usual age reported in the literature. In this case, diagnosis was not confirmed preoperatively. At laparotomy, the solid ovarian mass was found originating from left ovary, and the microscopic examination confirmed the diagnosis of the ovarian fibroma. This report represents the preoperative misdiagnosis of the ovarian fibromas and the conservative ovarian surgery for the ovarian fibromas.

INTRODUCTION

An Ovarian Fibroma is a rare, benign sex-cord stromal tumor of the ovary which grows from the connective tissue of the ovarian cortex. Most commonly found in women in their 50's, during perimenopause or postmenopause, ovarian fibroma accounts for approximately 4% of all ovarian tumors. They are not hormonally active in most cases(1). Most of them are unilateral; however bilateral cases may occur, especially in patients with Gorlin syndrome (Nevoid basal-cell carcinoma syndrome), Autosomal dominant condition due to mutations in the PTCH(Patched) gene found on chromosome arm 9q. In this syndrome, fibromas tend to occur at a younger age, often in children (2).

Neoplastic transformation of ovarian stromal cell are usually hereditary or due to sporadic genetic abnormalities.

In the WHO histopathological classification of tumors of the ovary, fibroma is classified under the sex cord-stromal tumors. The World Health Organization (WHO) classification of sex cord-stromal tumors has recently been revised in 2014 (3) (Table 1). In the current revision, these tumors were regrouped into the following clinicopathologic entities: pure stromal tumors, pure sex cord tumors, and mixed sex cord-stromal tumors. Fibroma is a benign stomal tumor composed of fibroblastic cells within a variably collagenous stroma. Variants include fibroma with minor sex cord element, cellular fibroma and mitotically active cellular fibroma. Cellular fibromas represent approximately 10% of ovarian fibromas. Mitotically active cellular fibromas shows mild nuclear atypia but more than 4 mitoses per 10 high-power fields. Long term follow-up recommended for cellular fibroma due to increased risk of recurrence (4).

CASE REPORT

A 20-year old married nulligravida from a low socioeconomic background presented to us in OPD with a complaint of vague pain and heaviness in the abdomen for 10-12 months. She also complained of increased frequency of frequency of micturition without dysuria for a month. She gave no history of menstrual irregularity, vaginal discharge. She attained menarche at 14 years of age. No abnormality was detected in CVS, CNS and RS examination. On per abdominal examination, mass of approximately 12-14 weeks size of pregnant uterus was palpated in hypogastric region arising from pelvis. Mass was firm to hard, smooth with well-defined margin and restricted mobility. Findings were confirmed on per vaginal examination with uterus palpable separately from the mass. Ultrasound showed well circumscribed, solid, homogenous and hypoechoic mass in lower abdomen superior to bladder measuring approximately 8cm by 10 cm. There was no free fluid in the abdomen. Uterus and right adnexa were normal. CT scan placed differential diagnosis of left broad ligament fibroid and ovarian tumour with fibrotic component. CA-125 was 10.7 IU. Other tumor markers: alpha fetoproteins, lactate dehydrogenase could not be done due to financial constraints. Mountoux was negative. IVP was done to rule out any distortion in the anatomy of the ureter. After a preoperative investigation, she was planned for exploratory laparotomy. On laparotomy about 10 ml of straw-colored ascitic fluid was

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aspirated and sent for cytology. Grossly left adnexal pedunculated firm to hard mass with smooth bosselated outer surface of approximately 10cm*7 cm was seen(Fig 1). Left salpingo oophorectomy was done. Uterus and right ovary were normal. No peritoneal deposits seen and no lymph nodes were palpable. Omental biopsy was done though there were no omental deposits. Mass was sent for histopathexamination. Cut section of mass was solid, white with whorled appearance. The patient stood the procedure well and was discharged on 5th post operative day.

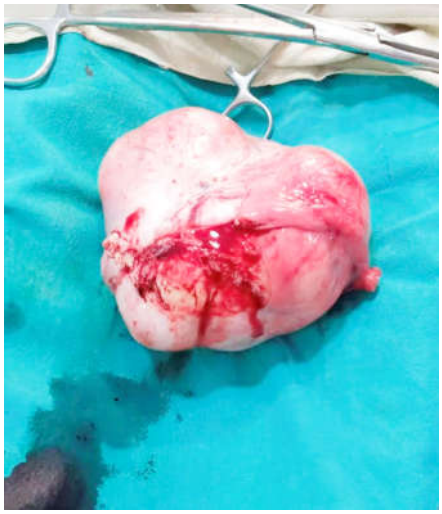

Figure 1 Intraoperative picture of left ovarian solid mass with bosselated smooth surface. Ovarian ligament and fallopian tube seen attached

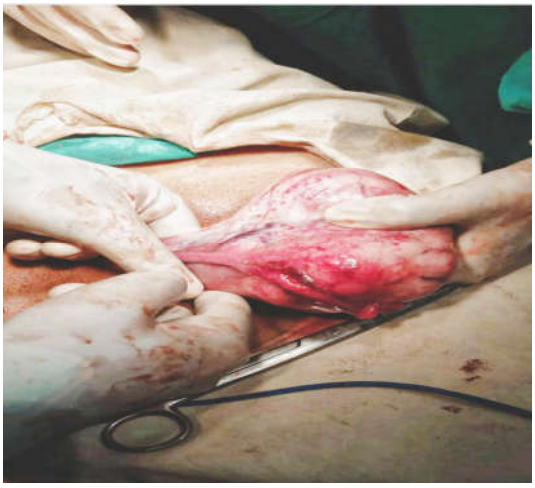

Figure 2 Surgical specimen of mass excised measuring approximately 10 cm by 8 cm,

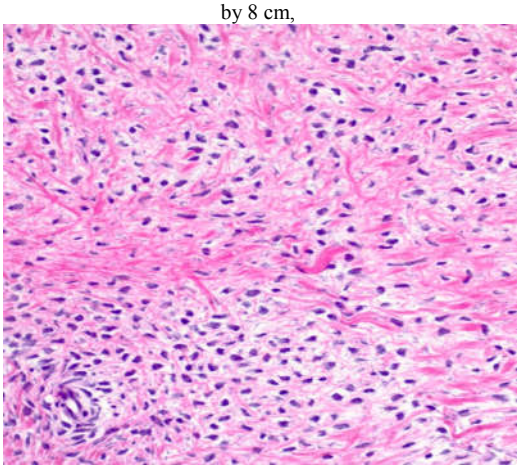

Figure 3 Histopathological study with H and E stain. Bland spindle cells within a collagenous stroma seen

Sections from the globular mass showed slender, spindle shaped cells disposed as intersecting fascicles; interspersed by fibrous connective tissue septa. Individual cell showed minimal anisokaryosis and had bland nuclear chromatin. There was no evidence of necrosis, marked cellular atypia or increased mitotic activity. The Fallopian tube attached to the globular mass had unremarkable histology. Histological findings were suggestive of a Spindle cell neoplastic lesion, ovarian fibroma with differential diagnosis of Leiomyoma. Immunohistochemistry was advised for confirmation which was refused by the client. Cytology and biochemical analysis of peritoneal fluid ruled out malignancy.

Table 1 WHO classification scheme for ovarian sex cord-stromal tumors (2014)

Pure stromal tumors
• Fibroma
• Cellular fibroma
• Thecoma
• Luteinized thecoma associated with sclerosing peritonitis
• Fibrosarcoma
• Sclerosing stromal tumor
• Signet-ring stromal tumor
• Microcystic stromal tumor
• Leydig cell tumor
• Steroid cell tumor
• Steroid cell tumor, malignant

DISCUSSION

Fibromas and thecomas belong to a spectrum of benign ovarian tumors that are derived from ovarian stroma. Fibromas are the most common sex cord stromal tumors and account for 3-4% of all ovarian neoplasms (5).

Though ovarian fibromas are almost always benign very rarely they may be associated with peritoneal implants. Fibromas are usually solid, firm, spherical slightly lobulated, encapsulated masses covered by a glistening intact ovarian serosa. Negative immunoreactivity for keratin and epithelial membrane antigen excludes the diagnosis of Brenner and Krukenberg tumors. Leiomyoma stains positive for desmin and caldesmon while fibroma tests negative for the same (6)

Fibromas most commonly present due to mass effect causing compression on different organs. Torsion occurs in 8% of the patients (7). In some cases ovarian fibroma can be a part of the Meigs syndrome, characterized by the triad of benign adnexal mass, ascites and pleural effusion. It occurs due to seepage of fluid from ovary into peritoneal cavity and then into one or both pleural cavities (right more than left due to wider lymphatic drainage) either via lymphatics or through a communication between abdominal and pleural cavity (lumbocostal triangle) (8). Serum CA-125 are usually found in normal range in ovarian fibroma; however elevated levels have been reported in patients with Meigs syndrome (9). In our case the patient initially complained of heaviness in the lower abdomen, and later pain in the abdomen and increased frequency of micturition. The workup should include ultrasound of pelvis, CT of the chest, abdomen and pelvis, serum markers of malignancy like CA 125, AFP, LDH. Although CA-125 is elevated in some patients, a true correlation is difficult to assess(10). On Ultrasound fibromas most commonly manifest as solid, hypoechoic masses with ultrasound beam attenuation. They may appear similar to

pedunculated subserosal fibroid. Heterogeneous echogenicity seen in tumor with necrosis, haemorrhage or cystic degeneration(11). CECT is helpful in delineating the tumor, its origin, and preservation of fat planes Diagnosis is confirmed only on histopathology (12). Because of their predominantly low signal intensity on T2-weighted images, fibromas and fibrothecomas display a relatively specific appearance on MR images (13). Surgical removal of these solid ovarian tumors is recommended. Because of the low probability of malignancy and recurrence, the ovarian sparing procedure should be done in young females. Minimal access surgery is an option, especially where the tumor is of small or moderate size. Salpingo-oophorectomy with or without hysterectomy can be considered in perimenopausal or postmenopausal women(14).

Ovarian fibromas are benign tumors of ovary, difficult to diagnose preoperatively, and can clinically and biochemically mimic ovarian cysts, tubo-ovarian mass, uterine myoma, or ovarian malignancy (15). Imaging is helpful to diagnose its benign nature, but histopathology can only confirm the diagnosis. Treatment usually consists of surgical resection either by laparotomy or laparoscopic approach. Long term follow up needed in cellular fibroma.

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How to cite this article:

Roshani Gupta (2021) 'Unilateral Ovarian Fibroma in 20 Year Old Nulligravida: Case Report', *International Journal of Current Medical and Pharmaceutical Research,* 07(06), pp 5836-5838.

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