Giant Primary Ovarian Leiomyoma - A Rare Case Report

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ABSTRACT

Introduction:

Primary ovarian leiomyoma is a rare benign ovarian tumor. It accounts for 0.5% - 1% of all benign ovarian tumors. These tumors are usually unilateral and small. Mostly seen in women aged between 20 to 65 years. Most of these tumors are asymptomatic and diagnosed incidentally on histological examination after surgery.

Case Presentation:

A 19 year old unmarried girl was admitted to our hospital with a complaint of mass abdomen for 3 months. Trans-abdominal ultrasonography and computed tomography scan revealed a right adnexal mass with cystic degeneration and minimal ascites. Right salpingo-oophorectomy was done. A diagnosis of ovarian leiomyoma was made histopathologically and immunohistochemically.

Conclusion:

Prior to surgical removal, the definitive diagnosis of these tumors is difficult as there are no pathognomonic symptoms and characteristic imaging findings. Although it is rare, ovarian leiomyoma should be considered in the differential diagnosis of spindle cell ovarian tumors.

Keywords: Ovarian leiomyoma, Benign, Immunohistochemistry, Histopathology.

Introduction:

Primary ovarian leiomyoma is a rare benign, solid tumour of ovary which accounts for 0.5% - 1% of all benign ovarian tumours.1,2 Most commonly seen in women aged 20 to 65 years old. Approximately 80 cases have been reported in literature.3 Usually these tumours are unilateral, small and seen in premenopausal women.4 Ovarian leiomyomas most probably originate from smooth muscle cells of the ovarian hilar blood vessels. It may also arise from ovarian ligaments, mature cystic teratoma, walls of mucinous cystic tumour, undifferentiated germ cells, cortical smooth muscle metaplasia and smooth muscle cells or multipotential cells in the ovarian stroma. Most of the cases are asymptomatic and diagnosed incidentally. Ovarian leiomyomas are mostly seen in nulligravidas.

Oestrogen may play a role in the development of ovarian leiomyoma. We are reporting a case of giant primary ovarian leiomyoma.

Case Report:

A 19 year old unmarried girl was admitted to our hospital with complaint of mass abdomen for past 3 months, and was gradually increasing. It was not associated with pain abdomen and any menstrual abnormality. Her history was unremarkable. On per-abdominal examination a hard mass of size 24 weeks was detected in right lower abdomen, which was mobile from side to side. Mass was free from uterus and felt to all fornices on per rectal examination.

On transabdominal ultrasonography a solid, well circumscribed, right adnexal mass of size 20 × 12 × 8 cm was found in close proximity to the fundus of uterus. Mass was homogenously isoechoic. Right ovary could not be separately seen. Left ovary and both kidneys were normal. In Doppler ultrasonography abnormal vascularity was not detected. Computed tomography scan showed right adnexal mass with minimal ascites. Her CA-125 value was raised to 114U/ml and CA 19-9, CA 15-3, CEA, and AFP values were within normal limits.

Laparotomy was performed. Midline incision was given below umbilicus. A giant, firm, solid, right-sided ovarian tumor was found. Right ovary could not be identified separately. Tumor was distinctly separate from uterus and was attached to it by ovarian ligament. No adhesion or infiltration to adjoining structures. Small amount of ascitic fluid was present. No accompanying uterine mass was found. The left ovary and salpinx were healthy and preserved. Right unilateral salpingo-oophorectomy was done. Specimen was sent for histopathological study.

Fig-1

Specimen was difficult to cut, probably due to calcification. Cut section was greyish white in colour with a small cystic...
degeneration. No recognizable normal ovarian tissue was found in the tumor mass.

**Fig-2, Fig-3, Fig-4**

Post-operative period was uneventful. Patient was discharged on 9th post op day with proper advice.

**Discussion:**

Primary ovarian leiomyomas are rare tumors of the ovary. Most of the ovarian leiomyomas are diagnosed incidentally on histological examination after surgery. For the first time Sangalli described this tumor in 1862. 80% of cases are seen in premenopausal women and approx. 16% after menopause. Most of the ovarian leiomyomas are small, usually less than 3 cm in diameter. We are reporting a very unusually large ovarian leiomyoma of size approximately 20×14×10 cm.

Ovarian leiomyomas are usually unilateral, but bilateral tumors have been detected in pediatrics and young adults. In many cases ovarian leiomyomas are accompanied with uterine leiomyomas. Sometimes it can arise secondarily from a subserosal pedunculated uterine fibroid, which get detached from the uterus and attach to the ovary. But in our case the uterus was normal and had no feature of leiomyoma. So it was a case of primary ovarian leiomyoma.

Most of the patients are asymptomatic or have complains of mass or pain lower abdomen. In some cases giant ovarian leiomyomas can be presented with hydrothorax, hydronephrosis, ascites or raised level of CA 125. In our case, the ovarian leiomyoma was large and it was associated with raised CA125. In some cases raised serum level of CA125 mislead the diagnosis towards endometriosis or malignant tumors of the ovary.

The definitive diagnosis of ovarian leiomyoma is difficult before surgical removal as no pathognomonic symptom is specific and also there is no characteristic imaging findings for ovarian leiomyoma.

Differential diagnosis is difficult from ovarian thecoma, fibromas and sclerosing stromal tumor prior to surgery. Ovarian leiomyomas are difficult to differentiate from subserous pedunculated uterine leiomyomas and other solid ovarian tumors by ultrasonography as it is isoechoic with the myometrium.

Diagnosis of ovarian leiomyoma requires identification of the smooth muscle nature of the tumour. The diffuse strong positive staining for smooth muscle actin (SMA) is characteristic of leiomyoma. Thecoma does not express SMA. Desmin shows diffuse positivity in leiomyoma, but it is typically negative or only focally positive in fibromatous tumors. Ovarian leiomyoma can be differentiated from leiomyosarcomas by using pathological criterias like mitotic count, cytological atypia, and tumour necrosis. All of these criteria were absent in our case.

Bilateral oophorectomy is often necessary for bilateral ovarian
leiomyomas. Hysterectomy with bilateral salpingo-oophorectomy is commonly done in middle-aged to elderly patients. We performed unilateral salpingo-oophorectomy in our case, because the tumor was indistinguishable from ovary, unilateral, benign and the patient was an unmarried young girl.

**Conclusion:**
Ovarian leiomyoma should be considered in the differential diagnosis of solid ovarian tumours. Diagnosis is difficult prior to surgical removal. Immunohistochemical analysis is required for definitive diagnosis. In our case it is a giant primary ovarian leiomyoma.

**REFERENCES:**

Subacute thyroiditis (SAT), also known as giantcell thyroiditis or de Quervain’s thyroiditis, is a form of thyroid inflammation that generally causes transient and self-limited thyrotoxicosis. Clinically, SAT typically presents with a viral prodrome of fever, myalgia, fatigue, and sore throat, followed by diffuse enlargement and tenderness of the thyroid gland, frequently in cases of hyperthyroidism. Phases of hyperthyroidism followed by euthyroidism, and finally, by transient or permanent hypothyroidism have been described.

Maternal thyroid disorders are the second most common endocrinologic disorders during pregnancy, with hypothyroidism affecting up to 2% to 3% and hyperthyroidism 0.1% to 0.4% of all pregnancies. Recognition of thyroid dysfunction during pregnancy is extremely important, as these disorders can have adverse effects on maternal and fetal outcomes. Adverse fetal outcomes include prematurity, intrauterine death, intrauterine growth restriction (IUGR), congenital anomalies, and neurocognitive deficits. Potential maternal complications include miscarriage, preterm delivery, preeclampsia, abruptioplacentae, and congestive heart failure. Graves disease is the most common cause (85% of cases) of hyperthyroidism in pregnancy. Other common causes are transient gestational hyperthyroidism associated with hyperemesis gravidarum and hyperfunctioning (toxic) thyroid nodule(s). Rare causes of hyperthyroidism during pregnancy in clued subacute thyroiditis, trophoblastic tumors like hydatidiform mole or choriocarcinoma and the mature germ-cell tumor, struma ovarii. While 5% to 7% of women have postpartum thyroiditis, subacute thyroiditis diagnosed during pregnancy is rare.

**Clinical Thyroidology**