



STRUMA OVARIi COMPLICATING PREGNANCY - A CASE REPORT

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Abstract :

Struma ovarii is a rare type of monodermal specialized teratoma composed entirely or predominantly of thyroid tissue. We report a case of struma ovarii which was detected as an adnexal mass on the left side in a routine ultrasound examination during the third trimester of pregnancy. The patient was diagnosed with pregnancy induced hypertension. Otherwise she was asymptomatic. Histopathological analysis revealed a benign struma ovarii. Its rarity in pregnancy and its difficulty in diagnosis without histopathological examination make its management difficult. Surgery is the only treatment because malignant transformation is possible.

Keyword : Struma ovarii, monodermal, teratoma, pregnancy, ovarian mass

INTRODUCTION:

The incidence of adnexal masses during pregnancy has increased dramatically mainly due to the expanding use of antenatal ultrasound [1]. But still they pose a diagnostic and therapeutic challenge. Even though most of these masses are benign, the possibility of a malignancy has to be ruled out.

The most common of these masses are functional ovarian cysts and teratomas of which struma ovarii is a rare subtype. Struma ovarii typically presents during the fifth decade but some cases presenting during pregnancy have been reported [2]. We describe a case of benign struma ovarii which presented during pregnancy.

CASE REPORT:

A left solid-cystic adnexal mass measuring 8 X 7 cm was detected by ultrasound in a 27-year-old primigravida at 31 weeks of gestation. The patient did not have any pelvic discomfort or pain. There was no free peritoneal fluid and the right ovary appeared normal. Her blood pressure was 150/100 mm Hg and she was diagnosed to have pregnancy induced hypertension. Thyroid function tests were not performed at this point as struma ovarii was not suspected. The patient was monitored clinically and ultrasonographically for any change in the size or features of the mass. The size had increased to 10 X 9 cm by 38 weeks of gestation. There were no clinical signs or symptoms indicative of torsion. Keeping this and her medical condition in mind,

the pregnancy was terminated at 39 weeks by performing a caesarean section. A healthy 3.25 kg baby boy was delivered. A left salphingo-oophorectomy and omental biopsy was performed and submitted for histopathological examination. The patient's blood pressure returned to normal levels and her thyroid function was within normal limits.

Grossly, the ovarian mass measured 11 X 8 X 5cm was nodular externally [figure 1]. Cut surface showed solid and cystic areas with gelatinous and mucoid material in the solid areas [figure 2]. Normal ovarian parenchyma was made out at one focus. The omentum did not show any abnormalities



Figure 1 - Gross - External surface



Figure 2 - Gross - Cut surface

Histopathological examination of the hematoxylin and eosin stained sections revealed a neoplasm [figure 3] composed exclusively of thyroid tissue consisting follicles of varying sizes [figure 4] lined by flattened to cuboidal epithelium [figure 5]. The follicles contained thick eosinophilic colloid. The stroma showed hemorrhage, hemosiderin laden macrophages, cholesterol clefts [figure 7] and dystrophic calcification. There was no evidence of malignancy. Hence, a diagnosis of Struma ovarii was made.

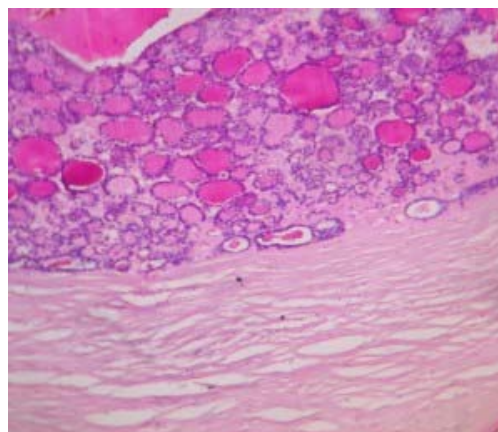


Figure 3 -Microscopic appearance

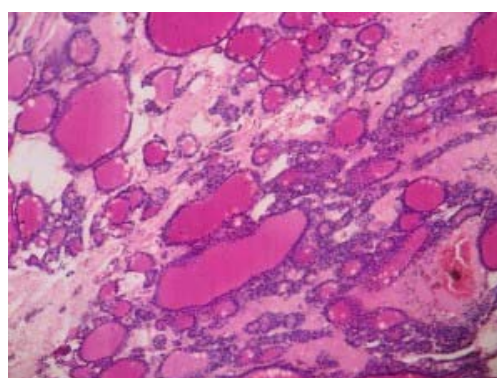


Figure 4 - Thyroid follicles of varying sizes Figure 5 - Follicles lined by cuboidal epithelium

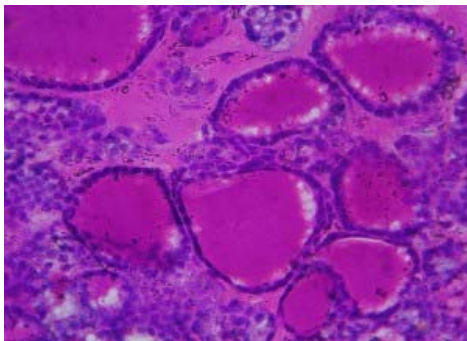
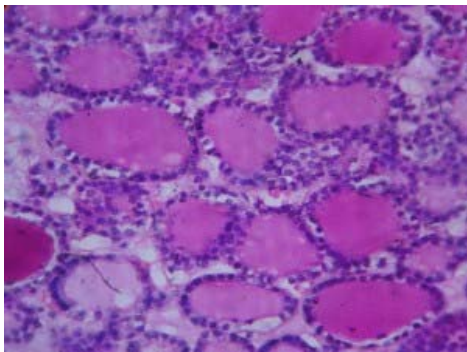
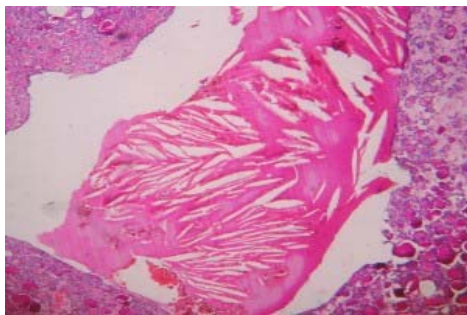


Figure 6 - Scalloping of colloid Figure 7 - Cholesterol crystals and hemosiderin laden macrophages



DISCUSSION:

Struma ovarii is a rare tumour comprising about 2.7% of ovarian teratomas and 1 % of all ovarian tumours. Malignant struma ovarii comprises 0.01% of all ovarian tumours and 5 – 10 % of all struma ovarii [3]. Most patients are in the fifth decade [4]. In our hospital, the incidence of struma ovarii over the past five years is 0.14% of all ovarian tumours (1 case out of 686

ovarian tumours) and 1.2% of ovarian teratomas (1 case out of 82 ovarian teratomas). The clinical findings are similar to that of other teratomas however these patients may present with swelling of the thyroid gland and also signs of hyperthyroidism.

Preoperative diagnosis is very difficult. The ultrasonography features of struma ovarii are nonspecific. It is difficult to distinguish between struma ovarii and dermoid cysts on the basis of their sonographic appearance. Nevertheless, Doppler flow may aid in the preoperative diagnosis of struma ovarii. Blood flow signals, detected from the center of the echogenic lesion, and low resistance to flow may be more common in struma ovarii. Kim et al. showed that struma ovarii has characteristic MR appearance of a multilobulated complex mass with thickened septa, multiple cysts of variable signal intensities, and enhancing solid components [5].

Thyroid tissue is relatively frequent in mature teratomas and has been demonstrated in 5 – 20 % of cases. However, a diagnosis of struma ovarii is justified only if the neoplasm is composed entirely or predominantly of thyroid tissue. Histologic appearances are often those of mature thyroid tissue, whereas areas resembling papillary hyperplasia, goiter, adenomas or Hashimoto's thyroiditis have also been reported [6].

Occasionally, struma ovarii may be associated with extra-ovarian spread along the peritoneum due to the rupture of the tumour. The condition is benign and is called benign strumosis. Malignancy in struma ovarii is uncommon and it may commonly show a follicular pattern, but papillary carcinoma is not infrequent.

The rate of adnexal masses in pregnancy is about 2.3% [7]. The management of an ovarian mass in pregnancy is difficult, and different parameters like gestational age, size and structure of the mass, risk of torsion, possible dystocia and the risk of malignancy interfere with the therapeutic approach. Overall, 50% of ovarian masses remain asymptomatic throughout gestation, as in the case we report. Serum tumor markers are useful diagnostic tools for malignant ovarian tumors [8], however they are inaccurate in pregnancy. Therefore, serial ultrasonography may be used to recognize signs of possible malignancy.

CONCLUSION:

Struma ovarii is a rare type of ovarian teratoma composed entirely or predominantly of thyroid tissue and the occurrence of this tumour rarely changes the outcome of pregnancy. Though rare, it should still be considered in the differential diagnosis of any ovarian mass detected during pregnancy and further evaluation has to be done to rule out malignancy.

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