

CAS CLINIQUE/CASE REPORT

OVARIAN IMMATURE TERATOMA DURING PREGNANCY

A Case Report

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ABSTRACT - Germ cell tumors are derived from the primordial germ cells of the ovary and immature teratoma is the second most common germ cell malignancy. About 50% of pure immature teratomas of the ovary occur in women between the ages of 10 and 20 years, and they rarely occur in pregnancy. A 21-year-old woman, gravid 1, para 0, at 18 weeks of gestation, was incidentally diagnosed with a right ovarian mass 180 mm by 200 mm, 160 mm in diameter, during a prenatal ultrasound scanning. She underwent surgery by unilateral salpingo-oophorectomy and surgical staging. The result of pathology showed a stage 1a grade 1 immature teratoma of ovary. Her pregnancy continued until term. At 38 weeks she delivered with breech presentation a normal 2900 g male newborn by cesarean section. Although immature teratomas of ovary during pregnancy are rare, clinicians should consider their eventuality in younger pregnant women in asymptomatic cases.

Keywords: ovarian, germ cell tumor, immature teratoma

INTRODUCTION

An increase in the incidence of adnexal masses during pregnancy has occurred concurrently with the use of prenatal ultrasound. The majority of these masses resolve by the second trimester. Persistent masses continue to be at risk for significant sequelae such as torsion, rupture, and obstruction of labor. These events may require emergency surgical intervention with increased risk of adverse outcomes for both mother and fetus. In addition, a small risk of cancer exists and delay in diagnosis should be avoided [1].

Although such masses are rarely malignant (1/10,000 to 1/50,000 pregnancies), the possibility of cancer must be considered.

Surgery should be performed after 15 gestational weeks for ovarian masses which (1) persist into the second trimester, (2) are greater than 5-10 cm in diameter and (3) have solid or mixed solid and cystic ultrasound characteristics [2].

Surgical excision of persistent adnexal masses should

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be entertained at approximately 16 to 20 weeks of gestation. In the vicinity of 5% of cases in which an adnexal mass proves to be malignant, appropriate staging should be safely conducted and in selected cases, chemotherapy should be performed [1].

Ovarian immature teratoma is a malignant germ cell tumor and represents less than 1% of ovarian malignant tumors; tissues are derived from the three germ layers (endo-, meso- and ectoderm). Tumor grading is based on the amount of immature neuroepithelium present and the prognosis is directly correlated to histological grade. Steep growth leads to large tumors with an early diagnosis [3].

The association with pregnancy is reported only in rare cases and a cancer diagnosis is a cause of distress to the couple. Therefore, treatment to minimize the risk to mother and fetus should be planned [4-5].

CASE REPORT

A 21-year-old woman at 18 weeks of gestation was referred for prenatal care. On live ultrasonography, in addition to a normal 18-week fetus, an incidental right ovarian mass, 180 mm by 200 mm and 160 mm in diameter, was reported. Serum tumor markers were measured. Serum alfa-feto protein level was 117 ng/ml (The normal level in 18 weeks of pregnancy is 22-93). Other tumor markers consisted of LDH, Beta HCG and ca125 were in normal ranges.

The patient underwent laparotomy at 19 weeks of pregnancy. A midline abdominal incision revealed a relatively huge left ovarian mass (Figure 1). Frozen section



FIGURE 1. The gross appearance of the tumor (ovarian immature teratoma).

was done and the abdominal and pelvic cavity was washed with some normal saline. Then the washed saline was sent for cytology.

There was some atypical cells in the frozen section specimen and washed saline cytology. Therefore, right salpingo-oophorectomy and surgical staging were done. The patient was well following operation. Histologic examination revealed a stage Ia grade 1 ovarian immature teratoma. All lymph node biopsies were free of tumoral cells.

For the rest of her pregnancy the patient was under comprehensive prenatal care and she and her fetus remained in good health.

A cesarean section was carried out at the 38th week of gestation; a normal, live, 2900 grams male baby was delivered with breech presentation. At that time the peritoneal cavity was inspected, and biopsies were taken from the peritoneum, pelvic wall, left ovary and omentum for a second-look laparotomy and were declared free of tumoral cells in cytologic report.

DISCUSSION

The risk of malignant ovarian tumor in pregnancy is relatively low. Also, ovarian germ cell tumors are scarce but curable at all stages of disease [6].

This case was the first case of ovarian immature teratoma in pregnancy in our hospital over 20 years.

Sah *et al.* study on 121 proven cases of germ cell tumor of the ovary illustrated that the prevalence of germ cell tumors was 43.36% (121/279) of all ovarian neoplasms. Tumor occurrence was most frequent in patients aged 21-40 years. Only eight out of 121 cases (6.61%) were malignant, the rest (93.39%) were mature teratomas. Pain and abdominal fullness were common symptoms and seventeen (14%) asymptomatic cases were found either on routine physical examination (12 cases) or during pregnancy (five cases). The left ovary was involved in 39.7% cases and the right in 35.5%. Bilateral involvement was seen in 24.8% of cases. Torsion was noted in 20.66% and was the most common complication. Of all the germ cell tumors 93.39% were cystic and only 6.61% were solid on gross appearance. There were three cases of benign teratoma, four cases of immature teratoma and one case of malignant transformation [7].

Our patient was 21 years old, with a relatively large asymptomatic tumor incidentally found during prenatal care by ultrasonography. The tumor was present in the right ovary.

In a retrospective analysis of 83 pregnant women with ovarian mass by Szczepa *et al.*, 29 (35%) patients underwent surgery and 54 (65%) were managed conservatively. Ovarian mass was diagnosed in 83% of operated women before eleven gestational weeks; only 27.5% of patients had pain. The most common pathologic findings were mature teratoma (37.9%) and serous cyst (34.5%); only one patient had borderline serous carcinoma in both ovaries [8].

This case was diagnosed at 18 weeks of pregnancy and was asymptomatic. Final diagnosis in histology was ovarian immature teratoma. So, the clinical presentation of our case was similar to many others case reports.

In a clinicopathologic analysis of 22 cases by Zhao *et al.*, the incidence of ovarian carcinoma complicating pregnancy was 0.073/1000. Nine (40.9%) were found with ovarian malignant germ cell, six (27.3%) with low malignant potential, five (22.7%) with invasive epithelial, and two (9.1%) with sex cord stromal tumors. Sixteen (72.7%) of the patients were diagnosed in stage I and had achieved complete remission. Four out of five in advanced stages died. The mean follow-up was 47.8 months. The prognosis was significantly related with stage and histologic type. Thirteen healthy live babies were recorded in this group, and one premature newborn died of respiratory distress syndrome [9].

In a retrospective study of women conservatively treated for primary ovarian cancer by Sait, 39 patients were identified with a mean age of 22 years. Thirty-one (80%) patients presented with stage I and 20 (52%) were germ cell tumors. Fifteen (39%) patients received initial chemotherapy after primary surgery, recurrence occurred in three (8%) patients. Thirty-eight (98%) patients resumed regular menstruation after treatment and eight patients (20%) experienced a normal pregnancy [10].

The results of the two mentioned studies showed that similar to our case the most common ovarian malignancy in young women, even in pregnancy, is germ cell tumor and most of them present in stage I. A very low percentage need to receive chemotherapy, and it is possible to have normal pregnancy after treatment.

CONCLUSION

In a concise summary, it is necessary to keep in mind the presence of malignant ovarian germ cell tumor in pregnancy. Early diagnosis is important and improves the survival of the patient.

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