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Ovarian Carcinoma in a Young Pregnant Woman

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ABSTRACT

Ovarian cancer during pregnancy is a rare event. Little is known about the treatment of this condition due to the lack of randomized trials and cohort studies. A case of 28 years female, from Kathmandu, visited Out-Patients Department with complaint of amenorrhea for 8 weeks associated with nausea and occasional pain abdomen. Dating scan was done which showed a single live intrauterine pregnancy corresponding to 8 weeks 4 days of gestation with incidental finding of adnexal cysts in both adnexa, measuring 3.6 x 3.6 cm on right and on left 3.2 x 3.6 cm. The cysts did not show any septations. At 38 weeks, she underwent caesarean section and delivered a healthy baby girl. Intra-operatively, bilateral ovarian cysts were identified, both 2x2 cm simple-looking cysts. Enucleation of bilateral ovarian cysts was done. The specimen was sent for histopathology which showed serous carcinoma of low grade in bilateral ovaries. Staging surgery was then carried out after 6 weeks. Histopathology report showed serous carcinoma of low grade in both ovaries. We present here the case of ovarian cancer during pregnancy.

Keywords: Ovarian cancer; pregnancy

INTRODUCTION

The incidence of ovarian tumors in pregnancy is approximately 1 in 1000, of which 2-5% of tumors are malignant (1 in 12,500-25,000 pregnancies).[1] Ultrasound scanning in pregnancy has lately become a routine. It has led to more frequent findings of the relatively asymptomatic adnexal masses. It is difficult to know how best to manage these patients, due to the absence of large randomized trials and cohort studies. Ovarian cancer is classified according to the histology of the tumor. The diagnostic modalities, clinical treatment, management, and prognosis are based on the histopathological findings. The surface epithelial-stromal tumor is the most common type of ovarian cancer, and they are also known as epithelial ovarian carcinoma. Infertile women are at a very high risk of ovarian cancer as they ovulate more.[1] Smoking, obesity, fertility medications, and hormone replacement therapy after menopause are other common risk factors. Hormonal birth control, tubal ligation, and breastfeeding are few factors that decrease the risk of ovarian cancer.[1] About 10% of cases run in families and approximately 50% of the risk of ovarian is present in individuals with the gene mutations BRCA1 or BRCA2.[1] This case report is a review of our experience of ovarian tumor diagnosed in pregnancy treated in our center.

CASE REPORT

We present a case of a 28-year-woman, who visited our hospital with complain of amenorrhea for 8 weeks associated with nausea and occasional abdominal pain. She was primigravida, Dating scan was done on April 19, 2019, which showed a single live intrauterine pregnancy corresponding to 8 weeks 4 days of gestation with adnexal cysts in both adnexa, measuring (3.6 x 3.6 cm) on right and (3.2 x 3.6 cm) on left. The cysts did not show any septations or abnormal vascularity, but showed low-level internal echoes suggestive of hemorrhagic cyst. Follow up scan was advised.

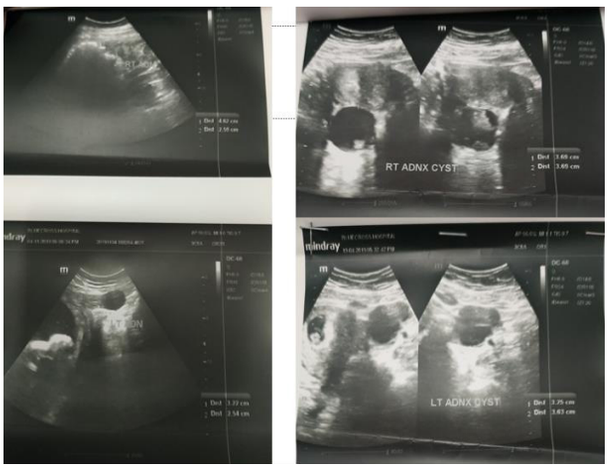

Figure 1. Ultrasound showing bilateral multicystic ovarian tumor during pregnancy.

The patient had an unremarkable first-trimester event with regular intake of Folic acid. Follow-up scan done at 13 weeks, showed a single live fetus of 13 week of

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gestation, with right complex adnexal cyst (5 x 4.2 cm) and left-sided simple cyst (3.1 x 2.7 cm) in size. She was advised to have regular antenatal checkups and was prescribed iron and calcium.

An anomaly scan was done at 20 weeks gestation which showed single live intrauterine pregnancy of 19 weeks of gestation, with posterior placentation with bilateral adnexal cyst, right complex (4.2 x 2.4 cm), and left simple (2.9 x 3.4 cm) in size. Follow-up scan was done in the third trimester at 31 weeks of gestation showed single live intrauterine pregnancy of 31-32 weeks of gestation, cephalic presentation with posterior placentation with bilateral adnexal cyst, right complex (5.5 x 4.9 cm), and left simple (2.7 x 3.6 cm).The last scan done at 37 weeks showed single live intrauterine pregnancy of 36 weeks 4 days gestation, cephalic presentation with posterior placentation, adequate amount of amniotic fluid with bilateral adnexal cyst, right complex (4.6 x 2.5 cm) and left simple (2.5 x 3.2 cm) in size.

The patient had no remarkable medical problems and no previous family history of endometrial, ovarian, colorectal, or breast cancer. She had menarche at 13 years of age with regular cycles of 28-32 days, 3-4 days bleeding consuming 2-3 moderately soaked pads per day with mild dysmenorrhea. She is a non-smoker, non-alcoholic, and non-habit of chewing tobacco.

At 38 weeks 1 day of gestation, patient visited labor room with complaint of sudden leakage of clear fluid per vagina for 1 hour. She had no complains of pain abdomen, or per vaginal bleeding. She had been perceiving good fetal movements. On examination, her vitals were stable. On per abdomen examination revealed uterus term size, with a longitudinal lie, cephalic presentation, with regular fetal heart sound, head 4/5th palpable, and no contractions present. On per speculum examination revealed a soft central cervix, with pooling of liquor in speculum and leaking present on coughing. She was immediately prepared for an emergency cesarean section and shifted to the operation theater. She delivered a single live female, 2.7 kg weight with APGAR score 7/10, 8/10 at 1 and 5 min respectively. Intraoperative, bilateral ovarian cysts were identified, both approximately 2x2 cm simple cysts. Enucleation of bilateral ovarian cyst was done and specimen was sent for histopathology examination. She was discharged on her 3rd post-operative day and advised to follow up after 1 week with histopathology reports.

Histopathology report showed serous carcinoma of low grade in bilateral ovaries with TNM staging of T1b. Immunohistochemistry markers (WT1, P53, PAX8, CK7) showed positive with diagnosis of low-grade serous carcinoma of ovary.

The laboratory tests performed were within normal. Biological markers: CA125 was 16.1 (normal range: 5-35 IU/mL), CEA was 3.41 (normal range 0-5 ng/ml), TSH was 1.94 (normal range 0.270-4.20 IU/ml), CECT abdomen and pelvis show normal findings.

Exploratory laparotomy was carried out after 45 days of cesarean section. Bilateral salpingo- oophorectomy, infracolicomentectomy, appendectomy, peritoneal washing, and multiple biopsies of the parietocolic and prevescical peritoneum and diaphragm were performed. Intraoperatively, no ascites was noted, no evidence of peritoneal and omentum deposits seen, normal bowel and bladder, normal uterus, normal-looking bilateral fallopian tubes, and ovaries with intact capsule were noted. On palpation, pelvic and para-aortic lymph nodes were negative. The patient had an unremarkable postoperative course. Histopathology assessment of the bilateral ovaries shows an intact capsule with serous carcinoma of low grade. The omentum, lymph nodes, and peritoneal wash fluid were negative for malignancy.

The patient was staged as having an International Federation of Gynecology and Obstetrics (FIGO) stage IB disease. Tumor board meeting was done. Detailed counseling of the patient and her family with multidisciplinary staff was done and planned for initiation of chemotherapy. Three cycles of chemotherapy given with paclitaxel and carboplatin.

DISCUSSION

Primary ovarian carcinoma occurs more commonly in nulliparous women in the latter half of their reproductive life. Women with maternal ovarian cancers are found to be significantly older than those with benign or borderline ovarian tumors.[2]

The distribution of different histologic types of ovarian cancers in pregnant, as well as non-pregnant women, is similar in the corresponding reproductive-age group.[3] In premenopausal women, the occurrence and detection of epithelial ovarian cancer are <20%. However, the detection of adnexal masses in pregnant women is relatively common lately as ultrasound monitoring is routinely used during pregnancy. [2-3]

Ovarian cysts that are unilateral, <5 cm in diameter, and usually detected in the first trimester are often functional in nature. Surgical intervention is required in the case of an adnexal mass exceeding 6 cm in

diameter with complex structure or ascites or persisting beyond 16 gestational weeks to obtain a final histologic diagnosis and rule out malignancy.[4] Elective surgery for tumors with low suspicion of malignancy should be delayed until the second trimester (17-19 weeks of gestation) so that the risk of spontaneous abortion is considerably reduced and also to watch for spontaneous resolution of functional cysts as seen in a vast majority of cases.[5] In this case patient and the patient party was well counselled about case and for surgical management in the second trimester but they refused as this is her first pregnancy and they don't want to take risk as there might be a chance of miscarriage.

The spontaneous abortion rate after surgery in the first trimester is documented as 10%. A sudy showed that 76.3% of patients continued with their pregnancy and subsequently delivered at term.[6] Hysterectomy during pregnancy is rarely indicated, unless it significantly contributes to improving the prognosis of the patient and if wide tumor debulking is performed due to extensive disease.

There are reports about the rapid growth and recurrence of ovarian germ cell tumors during pregnancy.[7] Surgery followed by chemotherapy gave satisfactory results in most of these reported cases.

Invasive epithelial cancer has the worst prognosis in all types of ovarian cancers. For these type of cancers, timely cyto-reductive surgeries followed by post-operative adjuvant chemotherapy is indicated, except for well-differentiated stage IA tumours.[8] Chemotherapy is generally contraindicated during the first trimester of pregnancy because of the high rate of abortion[9] and abnormal fetal development. However, in the second or third trimester of pregnancy chemotherapy can be comparatively safely administered as the risk of congenital malformation for the fetus is very low.[5]

The non-teratogenic effects of chemotherapy such as intrauterine growth restriction (low birth weight) or effects on the central nervous system as it develops throughout pregnancy should always be considered.[5] Until now, no studies have evaluated the long-term consequences for children exposed to intrauterine chemotherapy. Breastfeeding during cytotoxic chemotherapy should be avoided.[9] There is no convincing evidence that multi-agent chemo therapeutic regimens have a significant increase in congenital malformations of the fetus as opposed to a single cytotoxic agent.[9] There are numerous reports in the literature of bleomycin, cisplatin, and etoposide used in pregnancy with no untoward effects on the foetus.[9]

CONCLUSIONS

Most of the patients with ovarian cancer with pregnancy are clinically asymptomatic at the time of presentation. Early detection and timely management hold the key to a better prognosis. The widespread use of routine prenatal ultrasound and the incidental finding of an adnexal mass in pregnancy has become an increasingly common occurrence lately. The routine maternal and prenatal ultrasound should be done to monitor the size of ovarian cyst.

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REFERENCES

1. Roy P, Biswas B, Thomas S, Kumar RM, Jose R. Epithelial Ovarian Cancer in Pregnancy: Report of Two Cases. Int J Sci Stud. 2014;2(7):258-261.[Download PDF]
2. Oehler MK, Wain GV, Brand A. Gynaecological malignancies in pregnancy:A review. Aust N Z J Obstet Gynaecol. 2003;43:414-20. [DOI]
3. Dudkiewicz J, Kowalski T, Grzonka D, Czarnecki M. Ovarian tumors in pregnancy. Ginekol Pol. 2002;73:342-5.[PubMed]
4. Zemlickis D, Lishner M, Degendorfer P, Panzarella T, Sutcliffe SB, Koren G. Fetal outcome after in utero exposure to cancer chemotherapy. Arch Intern Med. 1992;152:573-6.[PubMed]
5. Tewari K, Cappuccini F, Disaia PJ, Berman ML, Manetta A, Kohler MF.Malignant germ cell tumors of the ovary. Obstet Gynecol. 2000;95:128-33. [DOI]
6. Zanotti KM, Belinson JL, Kennedy AW. Treatment of gynecologic cancers in pregnancy. SeminOncol. 2000;27:686-98.[PubMed]
7. Ueda M, Ueki M. Ovarian tumors associated with pregnancy. Int J GynaecolObstet. 1996;55:59-65. [DOI]
8. Karlen JR, Akbari A, Cook WA. Dysgerminoma associated with pregnancy. Obstet Gynecol. 1979;53:330-5. [PubMed]
9. KarimiZarchi M, Behtash N, ModaresGilani M. Good pregnancy outcome after prenatal exposure to bleomycin, etoposide and cisplatin for ovarian immature teratoma: A case report and literature review. Arch Gynecol Obstet. 2008;277:75-80.