

# Ovarian carcinoma as an incidental finding during cesarean section in a preeclamptic woman: case report

Y. Engin-Ustun, *Assist. Prof.*; Y. Ustun, *Assoc. Prof.*; K. Doğan, *M.D.*;  
M.M. Meydanlı, *Assoc. Prof.*

*Department of Obstetrics and Gynecology, School of Medicine, Inonu University, Malatya (Turkey)*

## Summary

Gynecologic malignancies are rarely associated with pregnancy and ovarian tumors diagnosed during cesarean section are very uncommon. A 38-year-old grandmultipara with no prenatal care was hospitalized at an estimated 28 weeks of gestation for high blood pressure and increased proteinuria but no other symptoms of preeclampsia. We present a rare case of advanced ovarian carcinoma diagnosed during cesarean section.

*Key words:* Ovarian cancer; Cesarean section; Pregnancy.

## Introduction

Gynecologic malignancies are rarely associated with pregnancy. Carcinoma of the cervix is one of the most common malignancies diagnosed in pregnancy. Ovarian cancer is the second most frequent gynecological cancer complicating pregnancy [1]. The incidence of ovarian malignancies diagnosed during pregnancy in the literature varies from 1/1,684 [2] to 0.073/1,000 pregnancies [3]. Pregnant women with ovarian cancer are usually asymptomatic and diagnosed by physical examination or ultrasound. Ovarian tumors diagnosed during cesarean section are very uncommon [4-6].

We present a case of advanced ovarian carcinoma diagnosed during cesarean section in a preeclamptic woman.

## Case Report

A 38-year-old grandmultipara (gravidity 9, parity 6) with no prenatal care was hospitalized at 28 weeks for high blood pressure (230/135 mmHg) and 3+ proteinuria, but she had no further symptoms of preeclampsia such as edema, headache, visual disturbance, hyperreflexia or right upper quadrant pain, and no personal or family history of chronic hypertension, renal disease or thromboembolic events. Her familial history did not show incidence of cancer. Her past medical history and gestations were unremarkable. She denied any present or prior medications.

She was submitted to blood pressure monitoring, blood tests, and assessment for fetal/maternal well-being. Laboratory studies showed normal findings, with the exception of high lactate dehydrogenase (1959 U/l, normal range = 200-380 U/l) and proteinuria 8.73 g/24 h urine collection. As she did not know her last menstrual date, gestational age was estimated on the basis of the ultrasound. Abdominal ultrasound examination showed a 28-week sized fetus and normal amniotic fluid index. After assessment, a provisional diagnosis of severe preeclampsia was made and she was started on MgSO<sub>4</sub> with an initial 6 g intravenous bolus, dexamethasone and antihypertensive therapy. Continuous cardiotocography monitoring was per-

formed. The case was complicated by oliguria (30 ml/h) and fetal distress (decreased variability, and repeated spontaneous decelerations) leading to emergency preterm cesarean delivery at 28 weeks' estimated gestational age. Primary low transverse cesarean section by Pfannenstiel incision was performed. A baby girl weighing 1,290 g with umbilical cord pH of 7.2 was delivered (Apgar score at 1 min 3, at 5 min 5). At entry to the peritoneal cavity, approximately 1,000 ml of ascites fluid was seen and drained. Extent of disease included a 7 × 7 cm complex multicystic pelvic mass arising from the left ovary and a 4 × 4 cm tumor with papillary excrescences involving the contralateral ovary and multiple small infiltrations on the uterus. The omentum appeared grossly free of disease. Frozen section was not possible since the surgery was performed under emergency conditions. Bilateral salpingo-oophorectomy was performed. Pathology revealed serous adenocarcinoma. Two weeks later she underwent exploratory laparotomy, total abdominal hysterectomy, pelvic and paraaortic lymph node sampling, and omentectomy. She was optimally debulked.

The tumor markers after cesarean section revealed elevated CA-125 (194 U/ml; upper limit of normal = 16.3 U/ml), and elevated CA-19.9 (167 IU/l; normal range = 1-33 U/ml), and normal levels of CEA, and CA-15.3. The patient was then submitted to six cycles of adjuvant chemotherapy (carboplatin (AUC = 6) + paclitaxel 175 mg/m<sup>2</sup>).

## Discussion

A 10-year retrospective review of Koonings *et al.* [7] evaluated incidental adnexal neoplasms found at the time of cesarean section. Adnexal neoplasms were identified with an incidence of one neoplasm per 197 cesarean sections. Sherard *et al.* [8] found that adnexal masses occurred in 0.15% of pregnancies. Thirteen percent of these ovarian tumors were malignant [8].

Dysgerminomas are the most common ovarian malignancies coexisting with pregnancy in white women, constituting 25-35% of all reported ovarian cancers in pregnancy [9]. Rabinowitz *et al.* presented two cases of dysgerminoma found incidentally at the time of cesarean section. The first was an elective repeat operation and in the second case surgery was carried out for fetal distress.

Revised manuscript accepted for publication August 21, 2006

In both cases unilateral salpingo-oophorectomy was performed. Both patients have been free of recurrence for three years since the diagnosis. One of them delivered a healthy baby two years after the operation. Since dysgerminoma is more prevalent among young females, its coexistence with pregnancy is less unexpected. Early diagnosis and treatment for pure dysgerminoma provides a good prognosis, and fertility can be preserved in selected cases [4].

Epithelial ovarian cancer is very uncommon during pregnancy. It has been reported to occur in one in 12,000-50,000 pregnancies [10]. Ahram *et al.* [5] reported a case of cystadenocarcinoma discovered as an incidental finding during an elective cesarean section in a 26-year-old woman.

The majority of ovarian cancers associated with pregnancy are diagnosed at an early stage during physical examination or ultrasound. We have presented a case of serous adenocarcinoma of the ovary diagnosed incidentally during cesarean section. The adnexal masses found incidentally during cesarean section were missed on ultrasound, probably due to the assessment of the patient under emergency conditions and obscuring of the tumors by the enlarged uterus. She never attended for antenatal care. During cesarean section, optimal debulking could not be performed because of the general condition of the patient.

In conclusion, cesarean section followed by definite treatment may be a treatment option in adnexal masses found incidentally during cesarean section.

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Address reprint requests to:  
Y. ENGIN-ÜSTÜN, M.D.  
İnönü Üniversitesi Tıp Fakültesi  
Kadın Hastalıkları ve Doğum AD  
44069-Malatya (Türkiye)