Metastatic Bilateral Malignant Ovarian Tumors Associated With Pregnancy

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SUMMARY

Objective: Krukenberg tumors in pregnancy are extremely rare. Only three cases have been reported, two of which were diagnosed postpartum.

Case Report: A 20-year-old, primigravida with bilateral malignant ovarian tumors, who received no prior antenatal care, was presented with intestinal obstruction at 5 months' gestation. Pregnancy was preserved, and bilateral oophorectomy, omentectomy with resection of sigmoid colon growth, and colostomy were performed. The patient aborted spontaneously and postoperatively, and was treated with adjuvant chemotherapy.

Conclusion: Because platinum-based chemotherapy can be safely given during pregnancy, hysterectomy can be avoided in cases of bilateral malignant ovarian tumors if the uterus is not grossly involved, so allowing preservation of an existing pregnancy. [*Taiwan J Obstet Gynecol* 2009;48(2):167–168]

Key Words: metastatic ovarian tumor, ovarian cancer, pregnancy

Introduction

The incidence of adnexal masses associated with pregnancy ranges from 1 in 81 to 1 in 2,500 pregnancies [1]. Malignant adnexal masses in pregnancy are responsible for approximately 3% of all ovarian tumors [2]. Krukenberg tumor is an ovarian metastasis of a digestive tract cancer and accounts for 1–2% of all ovarian tumors [3]. A MEDLINE search revealed only three reported cases of Krukenberg tumors during pregnancy, two of which were diagnosed postpartum. Krukenberg tumors during pregnancy are thus extremely rare, and we here report an additional case.

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Case Report

A 20-year-old primigravida, who received no prior antenatal care, presented to the emergency department at 5 months' gestation with a 15-day history of undue distension of the abdomen, accompanied by vomiting and abdominal pain for 2 days. On general examination, the patient appeared to be in extreme pain and was short of breath. The abdomen was tense, tender and distended, with visibly dilated loops of the gut. The exact size of the uterus could not be determined, but deeper palpation suggested a pregnant uterus corresponding to 24 weeks' gestation. Two firm masses with ill-defined margins were also palpable, filling most of the lower abdomen. There was no shifting dullness. Ultrasound showed a single live fetus of 20 weeks' maturity. Two masses of mixed echogenicity of about 10 × 9 cm and 12 × 10 cm were also seen in the pouch of Douglas and the left iliac fossa, respectively, with no free fluid (Figure). A provisional diagnosis of bilateral malignant ovarian tumors with intestinal obstruction was made, and an exploratory laparotomy was performed.

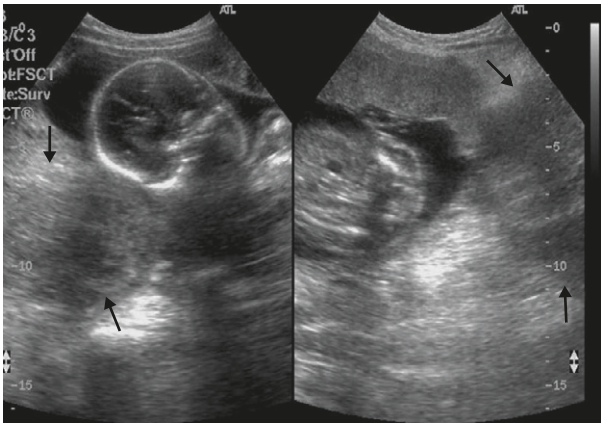

Figure. Ultrasonograms showing the fetus and two ovarian masses (arrows).

Opening of the abdomen revealed distended loops of the gut, a uterus that was enlarged to 24 weeks' gestation, and enlargement and replacement of both ovaries by tumors with smooth margins and a rubbery consistency. The tumors measured 14 × 16 cm and 16 × 18 cm, and occupied the pouch of Douglas and the left iliac fossa, respectively. The peritoneum, omentum, under surface of the diaphragm, other abdominal organs, and paraaortic lymph nodes appeared normal. Exploration of the gut revealed a firm-to-hard growth of 4 × 3 cm infiltrating the sigmoid colon. Bilateral oophorectomy, omentectomy with resection of growth in the sigmoid colon, and colostomy were performed. Three units of blood were transfused perioperatively. The patient was relieved of the intestinal obstruction postoperatively, but aborted spontaneously 10 days later, producing a male fetus weighing 700 g. Histopathology revealed mucinous adenocarcinoma of the sigmoid colon with bilateral ovarian tumors, showing a signet-ring appearance with a cellular stroma. A diagnosis of Krukenberg tumor was made, and one course of adjuvant chemotherapy with cyclophosphamide, cisplatin and doxorubicin was administered, which the patient tolerated well. She was discharged from the hospital with advice to return after 3 weeks for further treatment. However, the patient failed to return for her follow-up appointment.

Discussion

Krukenberg [4] initially described metastatic ovarian tumors in 1896. Krukenberg's criteria were: (1) the presence of a tumor in the ovary, (2) evidence of intracellular mucin secretion by the formation of signet cells, and (3) diffuse infiltration of stroma giving a sarcoma-like appearance [4].

No data currently support a role for concurrent pregnancy in influencing the growth rate or spread of ovarian cancer. However, there does seem to be an increased incidence of acute presentation in pregnancy, precipitated by tumor torsion or rupture [5]. Our patient was presented with features of acute abdomen caused by intestinal obstruction, which may in turn have been due to mechanical pressure on the intestines, exerted by the large ovarian masses and the enlarged uterus, resulting in this rare presentation.

When faced with clearly malignant bilateral tumors, the ideal surgical approach is total hysterectomy, bilateral salpingo-oophorectomy, pelvic and abdominal washings, omentectomy, and paraaortic lymph node biopsies. However, even in the event of bilateral malignant disease, it is possible to omit hysterectomy if the uterus is not grossly involved, thus allowing the preservation of an existing pregnancy. This approach is supported by the fact that platinum-based chemotherapy can be administered safely during pregnancy [6]. Thus, in the present case, the pregnancy was preserved at surgery, and chemotherapy was administered postoperatively, though the patient subsequently aborted and was lost to follow-up. The prognosis of this tumor still remains poor, though early detection and complete resection with adjuvant chemotherapy improves survival.

References

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