Benign pelvic masses masquerading as adnexal cancer during pregnancy on ultrasound: A retrospective study of 5 years

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Abstract. This study was conducted to investigate the sonographic characteristics of benign adnexal masses misdiagnosed as malignancy, and determine whether sonographic findings may help distinguish these lesions from malignant tumors during pregnancy at a single center. We herein present our experience with pregnant women with benign adnexal masses misdiagnosed as malignancy by ultrasound and operated on during pregnancy or after delivery. A total of 4 cases of benign pelvic masses were misdiagnosed as adnexal cancer over a 5-year period, including an ovarian theca cell tumor with luteinization, an obsolete ectopic pregnancy of fallopian tube, an ovarian mature teratoma with abundant nervous tissue and a uterine myoma with degeneration. The masses were characterized by abundant blood flow and heterogeneous echo on ultrasound. In conclusion, adnexal masses identified during pregnancy exhibiting abundant blood flow and heterogeneous echo may not represent malignancy, even in the presence of increased carbohydrate antigen 125 levels. In certain cases, benign adnexal masses may be initially misdiagnosed as malignant during pregnancy.

Introduction

Malignant adnexal masses are rare during pregnancy. The imaging characteristics of such masses have been even less frequently reported. The sonographic appearance of benign adnexal masses may be misdiagnosed as malignancy and further research is required to determine whether sonographic findings may distinguish these lesions from malignant tumors during pregnancy (1-3). The aim of this study was to describe the preoperative sonographic characteristics of 4 consecutive patients with lesions misdiagnosed as malignant and histologically diagnosed as benign postoperatively.

Patients and methods

Cases. For this retrospective study, we collected cases of pregnancy complicated by adnexal masses treated at the Obstetrics and Gynecology Hospital of Fudan University (Shanghai, China) between January, 2010 and January, 2014. All the patients had undergone imaging using a transabdominal 13-MHz probe and we selected a total of 4 cases with benign pelvic masses initially misdiagnosed as ovarian cancer. This study was approved by the Obstetrics and Gynecology Hospital of Fudan University Institutional Review Board (Shanghai, China).

Results

Case 1. The patient was admitted at 23 weeks of gestation for a heterogeneous adnexal mass, sized 8x7x6 cm, which was discovered incidentally. Sonographically, there was a predominantly solid lesion with a middle hypoechoic area on the left adnexa, appearing to originate from the left ovary. Color Doppler evaluation (MyLab 90 Systems; Esaote S.p.A., Genova, Italy) demonstrated abundant arterial and venous flow (Fig. 1). We detected an accumulation of 1,000 ml of ascitic fluid. The fetus and the contralateral adnexa were normal in appearance. The mass was diagnosed as malignant left ovarian tumor on ultrasound. The carbohydrate antigen (CA) 125 levels were increased to 2,443.1 U/ml (normal, 35 U/ml). During laparoscopy a highly vascularized mass was identified at the periphery of the left ovary. There was a 800-ml blood loss and the patient received a transfusion intraoperatively (Fig. 2). The mass was diagnosed as luteoma of pregnancy on frozen section analysis. However, on postoperative pathological examination, the mass was definitively diagnosed as a theca cell tumor with luteinization. The follow-up of the pregnancy course was unremarkable and the patient delivered a 3,200-g infant at 39 weeks.

*Contributed equally

Key words: ovarian cancer, ultrasound, pregnancy
fertilization and embryo transfer

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of pregnancy and postpartum in normal pregnancy (1). However, massively elevated CA125 levels (1,000-10,000 U/ml) during the second trimester may mislead the gynecologist to suspect malignancy (8). In our study, the CA125 levels were increased above normal levels in all 4 cases.

A limitation of our study was the small sample size. Although the data were from a single center, the results revealed that abundant blood flow and heterogeneous echo of the adnexal masses during pregnancy may not represent malignancy.

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References


