THE SONOGRAPHIC PREDICTION OF INVASIVE CARCINOMA IN UNILOCULAR-SOLID OVARIAN CYSTS IN PREMENOPAUSAL PATIENTS: A PILOT STUDY

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OBJECTIVES

Unilocular-solid ovarian cysts are a rare but challenging pathology in young women, with fertility sparing desire. In fact, the risk of borderline or invasive disease is around 10 and 20%, respectively. No ultrasound rule has up to now demonstrated the ability to discriminate with high accuracy, a borderline tumor from a benign tumor or from an invasive tumor. The aim of this study was to assess the predictive performance of different ultrasound parameters in differentiating benign and borderline versus invasive malignant tumors in premenopausal patients with unilocular-solid ovarian masses.

METHODS

Women aged <50 years, with unilocular-solid adnexal masses with a maximum diameter equal or less than 10 cm, submitted to surgery in our Department within three months from ultrasound examination, were included in this retrospective study. A standardized ultrasound examination technique and predefined definitions of ultrasound characteristics were used. The results of ultrasound examination and subjective evaluation using gray scale and color Doppler were compared with the histological examination of the respective surgical specimens.

RESULTS

Fifty-one patients were included in the study. The diagnostic performance of subjective evaluation with regard to discriminating benign versus borderline or invasive tumors reached a sensitivity of 100%, specificity 89%, LR+ 9.0, and LR- 0.07. The diagnostic performance of subjective evaluation with regard to discriminating non-invasive (benign or borderline) versus invasive tumors was 60% sensitivity, 96% specificity, LR+ 13.8, and LR- 0.15. At ROC curve analysis the best cut-off for the largest solid component was 14 mm. Largest solid component > 14 mm, presence of papillation flow, and the combination of the two parameters provided a sensitivity (100%) superior than that of subjective evaluation and a specificity (74%, 63%, 80%, respectively) lower than that of subjective evaluation (96%).

CONCLUSIONS

Transvaginal ultrasound examination seems to be able to discriminate between invasive and non-invasive tumors in premenopausal patients with unilocular-solid adnexal masses. Because of the retrospective nature of the study, further prospective clinical trials are needed to confirm the accuracy of the selected sonographic parameters in discriminating invasive versus non-invasive adnexal tumors.