The possible use of colour flow Doppler in planning treatment in early invasive carcinoma of the cervix

朱娟秀

Cheng WF;Wei LH;Su YN;Cheng SP;Chu JS;Lee CN

摘要

Abstract

Objective To investigate the pathological significance of intra-tumoural blood flow signals detected by colour Doppler ultrasound and their association with angiogenesis in cervical carcinoma. Design A prospective cross-sectional study. Setting University hospital. Population One hundred and four women with Stage IB-IIA cervical carcinoma. Methods All women underwent radical hysterectomy and pelvic lymph node dissection. Transvaginal colour Doppler ultrasound was performed before surgery to search for arterial blood flow signals within the tumours. Tumours with a measurable intra-tumoural resistance index were defined as tumour with detectable blood flow and the others as tumour with undetectable blood flow. The microvessel density of the excised tumour was assessed immunohistochemically. The women's clinical and pathologic data were recorded. Results There were 60 tumours (58%) exhibiting detectable intra-tumoural blood flow signals. Tumours with detectable blood flow were larger, had deeper cervical stromal invasion, a higher incidence of parametrial invasion and pelvic lymph node metastases, and a higher microvessel density, when compared with those without detectable blood flow. Cervical cancers with deep cervical stromal invasion, parametrial invasion, and pelvic lymph node metastasis had higher microvessel density than those with superficial stromal invasion, no parametrial invasion, or no lymph node metastasis. Microvessel density correlated well with lymph node metastases and parametrial invasion by multiple regression analysis, while intra-tumoural blood signals only showed correlation with parametrial invasion. In the prediction of pelvic lymph node metastases and parametrial invasion, colour flow Doppler had a sensitivity of 0.80 and specificity of 0.48 in predicting lymph node metastases, and sensitivity of 0.91 and specificity of 0.57 in predicting parametrial invasion. Conclusions The characteristics of blood flow signals in cervical carcinoma detected by colour Doppler ultrasound are associated with tumour angiogenesis and could reflect the likelihood of parametrial invasion and lymph node metastases in cervical carcinoma. The intra-tumoural blood flow signals might be used as a screening

test in predicting parametrial invasion and pelvic lymph node metastases. These findings may be helpful in planning treatment for women with Stage I and II cervical carcinoma.