Microcalcifications of non-palpable breast lesions detected by ultrasonography: correlation with mammography and histopathology

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摘要

Abstract

Objectives Microcalcifications are generally not demonstrated well on ultrasonography. In this study, we attempted to demonstrate the usefulness of high-resolution ultrasonography in the detection of microcalcifications associated with non-palpable breast cancers. Design Fourteen patients with non-palpable breast lesions in whom microcalcifications were detected or suspected by ultrasonography and one patient in whom microcalcifications were detected on mammography only were included in the study. Mammography and analysis of biopsy specimens were performed in each patient and the findings were correlated with the ultrasonographic findings. Ultrasonography and mammography were performed independently by different physicians at different times. Results In three patients ≤ 30 years of age, who were not at high risk of breast cancer and who had no evidence of cancer on palpation, high-resolution ultrasonography clearly showed microcalcifications but no mass. Two of these patients had ductal carcinoma in situ and one had small invasive carcinoma with extensive comedocarcinoma. Among the other 12 patients with non-palpable breast lesions, ultrasonography detected microcalcifications accurately in six and suggested possible microcalcifications in a further four. Microcalcifications in all of these ten patients were confirmed by mammography thereafter. Four of these ten patients had ductal carcinoma in situ, with or without invasive carcinoma. Of the remaining two patients, one demonstrated false-positive findings and one false-negative findings on ultrasound. On high-resolution ultrasonography, microcalcifications produced the appearance of twinkling stars (bright dots in different planes) in a dark sky (contrasted against ill-defined hypoechoic patches), corresponding on histopathology to groups of expanded ducts with increased cell density with or without necrosis. Conclusion High-resolution ultrasonography may be used for detection of

microcalcifications in non-palpable breast lesions. Ultrasonography is helpful in screening for early breast cancers, especially in young patients who are at risk for breast cancer and in whom mammography is not usually carried out