Non-palpable breast lesions in asymptomatic women: diagnostic value of initial ultrasonography and comparison with mammography.

AIM: This prospective double-blind study was designed to assess (i) if primary breast screening by ultrasonography is capable of detecting breast cancer independent of tissue density and (ii) if the rate of unnecessary biopsies remains acceptable when diagnostics are based on ultrasonography. PATIENTS AND METHODS: Bilateral breast ultrasonography was performed in 448 asymptomatic women as the initial diagnostic method. Sonograms were interpreted using a set of standardized diagnostic criteria. Subsequently, mammograms were obtained. The radiologists reading the mammograms were blinded to the sonographic results. RESULTS: Overall, 3 non-palpable breast cancers were detected by ultrasound and mammography. All 3 ultrasonographically detected breast cancers were smaller than 1 cm (0.7, 0.7, 0.6 cm). All 3 carcinomas were correctly detected by both methods. For ultrasonography, the false positive rate was 1.1% (n=5) and for mammography 0.6% (n=3). When both methods were combined, the rate of unnecessary open biopsies was 1.6% (n=7). The ratio of benign to malignant lesions was 3.7/1. CONCLUSION: Without prior mammography, primary high-resolution breast ultrasonography is capable of detecting non-palpable
breast carcinomas in asymptomatic women at an early stage. The rate of unnecessary open biopsies is low and the ratio of benign to malignant biopsies acceptable.