Comparison of full-field digital mammography with screen-film mammography for cancer detection: results of 4,945 paired examinations.

PURPOSE: To prospectively compare full-field digital mammography (FFDM) with screen-film mammography (SFM) for cancer detection in a screening population.

MATERIALS AND METHODS: At two institutions, 4,945 FFDM examinations were performed in women aged 40 years and older presenting for SFM. Two views of each breast were acquired with each modality. SFM and FFDM images were interpreted independently. Findings detected with either SFM or FFDM were evaluated with additional imaging and, if warranted, biopsy.

RESULTS: Patients in the study underwent 152 biopsies, which resulted in the diagnosis of 35 breast cancers. Twenty-two cancers were detected with SFM and 21 with FFDM. Four were interval cancers that became palpable within 1 year of screening and were considered false-negative findings with both modalities. The difference in cancer detection rate was not significant. FFDM had a significantly lower recall rate (11.5%; 568 of 4,945) than SFM (13.8%; 685 of 4,945) (P <.001, McNemar chi(2) model; P <.03, generalized estimating equations model). The positive biopsy rate for findings detected with FFDM (30%; 21 of 69) was higher than that for findings detected with SFM (19%; 22 of 114), but this difference was not significant.
CONCLUSION: No difference in cancer detection rate has yet been observed between FFDM and SFM. FFDM has so far led to fewer recalls than SFM.

DOI 10.1148/radiology.218.3.r01mr29873
Alternate Journal Radiology
PubMed ID 11230669