radiological review is performed (40 interval cancers, 40 screen detected stage-II cancers and 40 consecutive recalled cases). The audit is completed with a report, summarising the results and giving recommendations. This study compares four audit series (1996-2000/2001-2005/2003-2007/2010-2011).

Results: Recall rates (subsequent screens) increased from 6, 10, 12 to 14 per 1000, respectively, in the four series. Detection rates also increased from 3.3, 4.3, 4.7 to 5.7 per 1000. Distribution of tumour size and lymph-node status of invasive tumours remained stable (p>0.4). The percentage interval and screen-detected stage II cancers classified as "missed" during the review did not change (22% to 25%, p<0.1). Review of consecutive recalled cases showed an increasing number of cases the audit team would not have recalled with a higher recall rate of the screening radiologists.

Conclusion: We found audits are helpful in controlling the balance between (false positive) recalls and detected breast cancers. It also serves as a learning and feedback tool as it triggers discussion between screening radiologists. Overall, it can be seen as an important quality assurance tool.

B-0965

Avoidable surgical consultations in women with a positive screening mammogram: experience from a southern region of the Dutch breast screening programme

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Purpose: According to current Dutch guidelines, all women following a positive screening mammogram are referred for a full hospital assessment including surgical outpatient clinic and radiology department. Till 2007, all women with a positive screening mammogram in our screening region were only referred for further assessment to our radiology department. Purpose of this study was to determine how often surgical consultation in women with a positive screening mammogram could be avoided by a radiological pre-assessment.

Methods and Materials: All women with a positive screening mammogram, n=1014, referred to our radiology department from 2002 to 2007 were included. Data were prospectively collected by a senior breast radiologist. In-hospital follow-up data were available till September 2012. Descriptive statistics were used. Percentage of patients only assessed by a radiologist was determined. Negative predictive value for malignancy was calculated from the in-hospital follow-up.

Results: 427 of 1014 women (42%) were only assessed at the radiology department without further surgical consultation. During follow-up, 8 of these 427 women (2%) developed a malignancy in the same breast. At least 6 of these malignancies were located at a different location than the original screening findings which led to the initial referral. The estimated negative predictive value for malignancy was 99.5%.

Conclusion: By referring women with a positive screening mammogram to the radiology department for a pre-assessment, a surgical consultation was avoided in 42%, with an estimated negative predictive value for malignancy of 99.5%.

B-0966

Bi-RADS 3 category, a pain in the neck for the radiologist: which technique detects more cases?

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Purpose: This study aimed at evaluating the rate of BI-RADS 3 lesions detected by digital mammography, ultrasonography and tomosynthesis.

Methods and Materials: From October 2011 to August 2012, 2256 patients underwent digital mammography, US and tomosynthesis and all of them showing ACR density patterns 2, 3 & 4. For each imaging modality, all the patients were classified according to the BI-RADS categories 0-6. We compared the rate of BI-RADS 3 lesions detected on each technique using a Pearson Chi-square test (SPSS 15.0)

Results: Mammography detected 227 BI-RADS 3 lesions (10.06 %), US detected 471 BI-RADS 3 lesions (20.88 %) and tomosynthesis detected 270 BI-RADS lesions (11.97 %). They were statistically significant differences between mammography and US (p<0.001), US vs tomosynthesis (p<0.001) and mammography vs tomosynthesis (p=0.04). Four cancers were diagnosed: one of them was a BI-RADS 3 lesion in all imaging modalities and the 3 remaining cases were BI-RADS 3 on mammography but BI-RADS 4 or 5 on US or tomosynthesis.

Conclusion: Our results indicate that both US and tomosynthesis detect more additional BI-RADS 3 lesions than mammography alone. US detects twice as many BI-RADS 3 as mammography; Tomosynthesis detects more BI-RADS 3 lesions than mammography; however, the ratio is smaller (11.97 % vs 10.06 %; p=0.04).

B-0967

Adding 3D automated breast ultrasound (ABUS) to service screening mammography in dense breasts

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Purpose: Describe the impact on recall rates by adding ABUS service.

Methods and Materials: From November 2010 to February 2012, 1676 asymptomatic women with more than 50% density at visual mammographic assessment were enrolled. Bilateral ABUS (somo.vu/U-Systems, Inc. Sunnyvale, CA, USA) acquisitions were obtained and reviewed in combination with double-read two-view full-field digital mammography (FFDM). The bilateral ABUS examinations were performed by a radiographer. The image assessment was performed by a radiologist who was the first FFDM screening reader. All ABUS examinations were double read by the second reader if the FFDM findings from either reader, or ABUS findings from the first reader, led to discussion among the two readers.

Results: 10 % led to discussion among the two readers. In 8 cases of discussion caused by FFDM images, ABUS led to avoid recall (0.5 %). 2.3 % who underwent FFDM and ABUS, were recalled compared with 3.0 % of women in the year 2010 who had only FFDM in the service screening program. 0.9 % were recalled because of FFDM findings, where ABUS was either normal or abnormal. 1.4 % were recalled for ABUS findings with normal FFDM. Breast-cancer detection was 0.7%.

Conclusion: Adding ABUS to service screening mammography with FFDM did not negatively affect the recall rate in asymptomatic women with dense breast tissue and even improved the cancer detection.

Author Disclosures:


B-0968

Feasibility of automated 3D breast ultrasound scanning in screening of women with high risk

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Purpose: Automated 3D-breast ultrasound (ABUS) is investigated as a six-monthly addition to annual breast cancer screening with MRI+mammography (MM) in high-risk women (LTR> 50%). ABUS, an inexpensive radiation-free technique, allows more frequent screening and temporal comparison. This study assesses effects of additional ABVS examinations at baseline.

Methods and Materials: The study population consists of 234 women in whom ABVS and MM were performed on the same day. All ABVS and MM examinations were read by one of 4 breast radiologist. The recall rate (RR), biopsy rate (BR), cancer detection rate (CDR), sensitivity and specificity of ABUS and MM screening were analysed.

Results: Based upon MM, 28 patients were recalled for further examination (RR=12%). With ABVS 12 of these patients were also recalled, as well as 17 other women. Consequently, the RR increased to 45/234. Biopsies were deemed necessary in 21 patients after MM and increased to 26 with ABVS added, an increase from 9%-11%. 17 additional ABVS findings were resolved with targeted ultrasound. In total 4 cancers were found by MM (CDR 1.7%, sensitivity 100%, specificity 89%). Two of these cancers were also detected by ABVS (CDR 0.9%, sensitivity 50% specificity 88%). The two missed cancers were retrospectively visible, but misinterpreted due to post-operative scarring.

Conclusion: Adding ABUS to high-risk MM screening increased RR and BR at baseline. Whether these negative effects are reduced when radiologists gain more experience and whether they are balanced by earlier detection of breast cancer due to the six-month interval of ABVS remain to be determined.