

POSTER PRESENTATION

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Impact of three dimensional tomosynthesis on the detection and diagnosis of breast lesions

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Objective

To evaluate the impact of adding 3D Tomosynthesis to Full Field Digital Mammography (FFDM) in the detection and diagnosis of breast lesions.

Subjects and methods

The study included 166 mammograms with indeterminate findings selected from 1600 mammograms. They were classified into two groups: group 1 'Diagnostic mammograms' of symptomatic women and group 2 'Screening mammograms'. Dense breasts assigned as ACR3 and ACR4 presented 69% ($n = 114/166$) of the studied cases. FFDM and 3D tomosynthesis examination was done and imaging findings were evaluated before and after the use of 3D tomosynthesis images.

Results

Both modalities were compared regarding detection and diagnosis, each individually assessed, using the Pearson Chi Square tests. Detection (P value: 0.006) and diagnosis (P value: 0.048) of breast lesions dramatically improved when 3D tomosynthesis images were considered in the evaluation. The sensitivity, specificity, and accuracy of digital mammography was 60%, 20.7% and 48% have significantly enhanced on applying tomosynthesis to be 94.5%, 74% and 89.7%.

Conclusion

Three-dimensional tomosynthesis significantly enhanced the detection and characterization of breast lesions on digital mammography especially in the context of dense breast parenchyma (ACR 3&4).

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