The role of additional tomosynthesis combined with digital mammography

P. Martínez, J. Echano, M. Sainz, I. Simon, G. Viteri, A. Garcia Lallana, C. Minguillon, L. Pina



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OBJECTIVE

To evaluate the breast cancer detection rate in a clinical setting of ACR density patterns 2, 3 and 4 when using digital tomosynthesis combined with 2D digital mammography.

MATERIALS AND METHODS

A retrospective review of 9301 combo studies (digital tomosynthesis plus 2D digital mammography) performed between December 2010 and September 2012 was done to evaluate the effect of the cancer detection rate with the addition of tomosynthesis in ACR density patterns 2, 3 and 4.

FINDINGS

- The cancer detection rate of conventional 2D digital mammography was 1.26% (118 breast tumors were detected).
- The cancer detection rate using tomosynthesis was increased to 2.03% (71 additional cancers were detected using tomosynthesis that were missed on standard mammograms) that is a 61% increase in cancer detection rate. No statistical differences were found among the three density patterns
 - For ACR 2, the cancer detection rate was increased by 0.61% (14 cases).
 - For ACR 3, the cancer detection rate was increased by 0.74% (27 cases).
 - For ACR 4, the cancer detection rate was increased by 0.87% (30 cases).

CONCLUSION

The study concludes that the addition of DBT to conventional 2D screening mammography increases the cancer detection rate by 61%. No statistical differences were found among the three density patterns, so tomosynthesis can be useful not only in dense patterns but also in pattern 2.

