

Risk-Based Screening Mammography for Women Age <40: Outcomes from the National Mammography Database

Wednesday 3:10-3:20 PM | SSM02-02 | Room: E350

PURPOSE

There is insufficient large-scale evidence supporting screening mammography in women <40 years with risk factors. This study compares risk-based screening of women ages 30-39 versus women age 40-49 with no known risk factors, using screening mammography performance metrics from the National Mammography Database (NMD).

METHOD AND MATERIALS

This HIPAA compliant and IRB approved study analyzed data from 150 mammography facilities in 31 states in the NMD. The NMD collects clinical practice data including self-reported patient demographics, clinical findings, screening mammography interpretation and biopsy results. Patients were stratified by 5-year age intervals and specific risk factors for breast cancer: family history of breast cancer (any first degree relative regardless of age), personal history of breast cancer and breast density of heterogeneously or extremely dense (C or D). Prior mammograms were identified by patient date of birth and facility-assigned identification number. Four performance metrics for screening mammography were calculated for each age and risk group: recall rate, cancer detection rate, and positive predictive values for biopsy recommended (PPV2) and biopsy performed (PPV3).

RESULTS

5,772,730 screening mammograms were performed between January 2008 and December 2015 in 2,647,315 women. Overall, mean cancer detection rate was 3.7 per 1000 (95% CI: 3.65-3.75), recall rate was 9.8% (9.8-9.8%), PPV2 was 20.1% (19.9-20.4%), and PPV3 was 28.2% (27.0-28.5%). Overall, women age 30-34 and 35-39 had similar cancer detection rates, recall rates and PPVs, with the presence of the three evaluated risk factors associated with significantly higher cancer detection rates. Moreover, compared to a population currently recommended for screening mammography in the USA (age 40-44 with no known risk factors), incidence screening (at least one prior screening examination) of women ages 30-39 with the three evaluated risk factors has similar cancer detection rates and recall rates.

CONCLUSION

Women ages 30-39 with 3 specific risk factors should benefit by starting screening at age 30 instead of the age 40 start recommended for average-risk women.

CLINICAL RELEVANCE/APPLICATION

Women