
Breast Cancer Screening: Time for a New Paradigm?



Mammography, the gold standard of breast cancer screening, reduces breast cancer mortality, but has important limitations. Critics point to reduced sensitivity for women with dense breasts, a high rate of false positives leading to excessive biopsies, and concerns about long-term effects of repeated radiation.

The authors of a review published in the June issue of the American Journal of Medicine envision a new approach to risk and breast cancer to include new technologies with the potential for a more individualised approach that integrates patient-specific metrics, such as age, breast density, and personal preference.

The authors discuss the pros and cons of new technologies for breast cancer screening. “Digital breast tomosynthesis is an imaging technique aimed at eliminating the pitfalls of overlapping breast tissue. It has the potential to lower recall rates on screening mammography and reduce false negative examinations due to dense breast tissue,” says lead author Jennifer S. Drukteinis, MD, of the H. Lee Moffitt Cancer Center and Research Institute in Tampa. MRI, which offers improved sensitivity but reduced specificity, is appropriate for high-risk patients. Other technologies outlined are contrast-enhanced mammography, low-dose mammography, automated whole breast ultrasound, and positron emission mammography.

“Given the heterogeneity of the human population, a ‘perfect’ imaging technology for breast cancer screening will likely never be found. In fact, because of this heterogeneity, the very concept of ‘one strategy fits all’ may be outmoded,” says Dr. Drukteinis.

“The development of a personalised, individual patient-centered approach to breast cancer screening mirrors the evolution of similar strategies in other aspects of medicine,” writes Robert G. Stern, MD, a radiologist affiliated with the University of Arizona College of Medicine, in an accompanying editorial. “There will likely be no new whiz-bang technology to replace mammography; rather, innovative patient-specific approaches that incorporate new adjunctive and complementary technologies into overall breast cancer screening will improve specificity and sensitivity, reduce radiation exposure, and remove a significant amount of anxiety from the lives of our patients.”

Citing the intricacies of each modality, Dr. Stern brings up a very critical point: the need for a much closer working relationship between breast imagers and clinicians to make sure each woman undergoes breast cancer screening tailored to her.

References

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