Response

Colin and Schott raise a number of issues related to mammographic density and risk of breast cancer, which was the subject of our recent review. They point out that variations in mammographic technique may influence the appearance of density. However, despite this potential source of variation, there has been great consistency in descriptions of the association between mammographic density and the risk of breast cancer. This consistency is seen across countries, study designs, methods of assessing density, subsets of women defined by age and menopausal status (1), screening programs (2), and time (2,3). The risk of breast cancer associated with mammographic density at a single point in time has been shown to persist for at least 10 years (3), is present in both screen-detected and interval breast cancers (2), and cannot be explained by the “masking” of breast cancer by dense breast tissue.

Their statement that “a recent study using MRI suggests that there is no correlation between mammographic density and qualitatively assessed fibroglandular tissue in women with dense breasts” is misleading. In the study cited, in all 35 women examined, the $R^2$ for two-dimensional percent mammographic density and three-dimensional percent mammographic density by magnetic resonance was .667 ($P < .001$), and, thus, the square root—$R$—is .82 [figure 7 in (4)]. In the subset of women with the highest breast density, $R^2$ was .26 ($P < .017$), and $R$ is .51.
As pointed out in our review, mammography does have limitations as a method of assessing breast density, and current breast density data based on mammography may underestimate the associated risk of breast cancer. We describe ultrasound tomography and magnetic resonance as potential alternatives to mammography that are capable of generating quantitative three-dimensional measures of breast tissue. Additional approaches are under development by others.

However, it is abundantly clear that the subjective and qualitative methods of assessing two-dimensional breast density that are now in routine use in a large number of mammographic screening centers in the United States can provide useful information about breast cancer risk (5), and the use of this information in the prevention of breast cancer is now being advocated (6).

The development of automated, quantitative, volumetric methods of assessing breast tissue composition is in progress. In the meantime, it would be unfortunate if, as Colin and Schott assert, physicians were unable to acknowledge this risk factor for breast cancer and, to paraphrase Voltaire, allowed the best to be the enemy of the good.

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