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Individualized Breast Cancer Screening versus Population-based Mammography Screening Programs

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A recent publication by Depypere *et al.* suggest that instead of population-based breast cancer screening, we should focus on individualized breast cancer screening.[1] In fact this is a position statement by the European Menopause and Andropause Society (EMAS). This is not a new statement since this was under discussion now and then because many investigators believe that population-based screening programs cause overdiagnosis. For example, a new estimates of over-diagnosis of breast cancer due to population-based mammography screening in South Australia after adjustment for lead time effects showed that there were 8% over-diagnosis for invasive breast cancer and 12% inclusive of ductal carcinoma in-situ due to mammography screening among women aged 40-84.[2] However, the statement was received considerable attentions by academics and practitioners. For instance, the statement was highlighted by some cancer societies and briefly summarized the statement as follows:

"Breast cancer is the most prevalent cancer in women. Mammography screening is a well-established method to detect breast cancer. However there are concerns about over-diagnosis with population-based screening programs. Some tumors grow so slowly that they will not threaten the health of women during their lifetime. The women will die from another cause and thus it is argued that these tumors should not have been treated. Treatments can be invasive and painful, have major side effects, especially in those with significant co-morbidities. While this is easy from an epidemiological standpoint, it is a dilemma for the treating physician dealing with individual women. It is virtually impossible to make the diagnosis of breast cancer and to predict the future behavior of that tumor. Thus individualization is proposed so that women may be categorized into 'low to moderate' and 'high' risk based on familial risk and the first screening mammogram so that further screening can be tailored".[3]

According to Desreux *et al.*[4] the statement indicates that optimal individual screening should follow these principles:

- Individual screening should begin from the age at which the breast cancer risk is equal to that for an average risk women aged 50 years (≈2% in the next 10 years or remaining lifetime risk ≈8%);
- Individual screening should stop when the risk of co-mortality from other diseases exceeds the risk of breast cancer mortality;
- The frequency of screening rounds should be adapted to the individual level of risk;
- Imaging modality should be adapted to breast characteristics in order to reach the best sensitivity and specificity;
- The screening strategy should be regularly and individually reassessed.

Then they add: women should be informed about the risks/benefits of screening and about their risk of developing breast cancer compared to developing other diseases such as cardiovascular diseases. They also indicate that "the doctor should accept an eventual thoughtful refusal. In all cases, partici-

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-pation to screening should be voluntary and personal. Information giving should be personally and not population focused".

Finally the statement concludes that:

"Individualizing screening appears to be a relevant strategy for improving effectiveness on breast cancer mortality without increasing costs and harms for the vast majority of women and society. There is a need to intensify screening in a minority of higher risk women by increasing the frequency of mammography and/or by addition of other imaging modalities to mammography. This intensification comes at the price of a higher numbers of false positives and biopsies. On the other hand, individualization reduces the screening burden in a majority of lower risk women. To decrease the costs and the burden of false positives and over-diagnosis, lower risk women should be screened less frequently (i.e. every 3 years as in the UK) and screening should stop when co-morbidities are significant. Lower risk women include mainly no familial risk, BIRADS1 fatty breasts and menopause before the age of 35. The other protective factors such as normal postmenopausal BMI, no combined MHT use and exercise are minor (RR > 0.5) and should not modify the screening strategy'.

It seems that it is time that we benefit from evidence-based practice and do not make decisions that might harm women.

References

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