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Canadian study: Annual Screening Does Not Reduce Breast Cancer Deaths

According to a new Canadian study published on the website of the British Medical Journal, yearly breast screening of women aged 40-59 does not reduce mortality from breast cancer beyond that of physical examination or usual care.

In addition, screening resulted in over-diagnosis (22%), representing one over-diagnosed breast cancer for every 424 women who received screening in the trial. "Over-diagnosis" refers to the detection of harmless cancers that will not cause symptoms or death during a patient's lifetime.

Women with small (non-palpable) breast cancer detected by mammographic screening have better long term survival than women with palpable breast cancer. Whether this survival difference is attributable to organised screening or to lead time bias (when testing increases perceived survival time without affecting the course of the disease) and over-diagnosis is unclear.

In their study, the team of Canadian researchers therefore evaluated data on breast cancer incidence and mortality up to 25 years. They included over 89,000 women aged 40-59 who did or did not undergo mammography screening in their comparison.

Women in the mammography arm of the trial were screened a total of five times (one mammography a year over a five year period), whereas there was no screening for those women in the control arm.

Additionally, participants aged 40-49 in the mammography arm, as well as all aged 50-59 in both study groups, underwent annual clinical breast examinations. The women in the control arm aged 40-49 were given a single clinical breast examination followed by usual community care.

Throughout the length of the study, 3,250 women in the mammography arm and 3,133 in the control arm were diagnosed with breast cancer, with 500 and 505 breast cancer deaths respectively. Based on this outcome the authors concluded that the cumulative mortality from breast cancer between women in the mammography arm and those in the control arm was similar.

Assessing further data at the end of the five-year screening period there were 142 more breast cancers in the mammography arm compared to the control arm, and at the end of 15 years the excess remained at 106 cancers. According to the authors these findings implied that 22% of the screen detected invasive cancers in the mammography arm were over-diagnosed. In numbers this amounts to one over-diagnosed breast cancer for every 424 women who underwent mammography screening during the trial.

While the researchers stress that these results may not be generalisable to all countries, they do emphasise that in technically advanced countries, these results support the views of some commentators: that the rationale for screening by mammography should be urgently reassessed by policy makers.

Education, early diagnosis, and excellent clinical care should continue, write the authors, however they conclude that annual mammography "does not result in a reduction in breast cancer specific mortality for women aged 40-59 beyond that of physical examination alone or usual care in the community."

Dr Mette Kalager and colleagues suggest in an accompanying editorial that the practice of screening women under 60 is not supported by long term follow-up. They concurred with the study authors that policy makers should urgently reassess the rationale for mammographic screening, but acknowledge that this is not easy "because governments, research funders, scientists, and medical practitioners may have vested interests in continuing activities that are well established."

Source: British Medical Journal

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