OVERDIAGNOSIS WITH MAMMOGRAPHY?

Although screening for cancer might detect malignant tumors, it could also lead to overdiagnosis and overtreatment of patients with non-life-threatening tumors. Jørgensen and Gøtzsche of the Nordic Cochrane Center investigated the extent of overdiagnosis of breast cancer before and after the introduction of publicly organized mammography screening programs and now report their findings in a systematic review.

The researchers collected data from studies on the incidence of breast cancer, population size, screening uptake, time periods and age-groups in screened and nonscreened women, 7 years before and after the introduction of screening in the UK, MB Canada, NSW Australia, Sweden and parts of Norway. Linear regression analysis was used to investigate the trends in breast cancer incidence before and after the introduction of screening, and the extent of overdiagnosis was estimated by meta-analysis.

The researchers estimated that breast cancer was overdiagnosed by 52% when public mammography screening was available, with one in three cancers detected being overdiagnosed. A decline in breast cancer incidence was observed in three countries among women who exceeded the age limit of screening; however, the estimate of overdiagnosis compensated for this finding, as this decrease was subtracted from the estimate of overdiagnosis and was relatively small. The researchers accounted for the increase in background incidence by comparing the observed rates of breast cancer with the expected rates for the final year of observation, using projected incidence rates from prescreening trends.

This study shows that the increase in incidence rates for breast cancer is associated with the introduction of screening programs, leading to overdiagnosis.

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Original article Jørgensen, K. J. & Gøtzsche, P. Overdiagnosis in publicly organised mammography screening programmes: systemic review of incidence trends. *BMJ* 339, b2587 (2009).