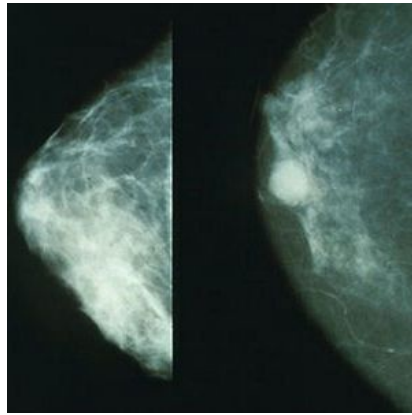




Screening Mammography: More Small Cancers Suggest Overdiagnosis



A new study published in *JAMA Internal Medicine* shows that screening mammography was associated with increased diagnosis of small cancers, but not with significant changes in breast cancer mortality or a decreased incidence of larger breast cancers. Researchers say the increased incidence of small cancers may be the result of overdiagnosis.

The researchers conducted an ecological study of 16 million women (ages 40 and older) who lived in 547 U.S. counties reporting to Surveillance, Epidemiology and End Results cancer registries during the year 2000. Of these women, 53,207 were diagnosed with breast cancer that year and followed up for the next 10 years.

Richard Wilson, DPhil, of Harvard University (Cambridge, Mass.) and colleagues examined the extent of screening in each county and measured breast cancer incidence in 2000 and incidence-based breast cancer death during the 10-year follow-up, with incidence and mortality calculated for each county. They reported these key findings:

- The extent of screening correlated with breast cancer incidence but not with breast cancer mortality: An increase of 10 percentage points in screening was associated with 16 percent more breast cancer diagnoses but not significant change in breast cancer deaths.
- More screening also correlated with increased incidence of small breast cancers (2cm or less) but not with a decreased incidence of larger breast cancers: An increase of 10 percentage points in screening was associated with a 25 percent increase in the incidence of small breast cancers and a 7 percent increase in the incidence of larger breast cancers.

"What explains the observed data? The simplest explanation is widespread overdiagnosis, which increases the incidence of small cancers without changing mortality, and therefore matches every feature of the observed data," the research team says.

"As is the case with screening in general, the balance of benefits and harms is likely to be most favourable when screening is directed to those at high risk, provided neither too frequently nor too rarely, and sometimes followed by watchful waiting instead of immediate active treatment," the study concludes.

In a related commentary, Joann G. Elmore, MD, MPH, of the University of Washington, Seattle, and Ruth Etzioni, PhD, of the Fred Hutchinson Cancer Research Center, Seattle, write: "However, much has also been written about the caution needed when interpreting ecological analyses. It is well known, for example, that

ecological studies provide no information as to whether the people who were actually exposed to the intervention were the same people who developed the disease, whether the exposure or the onset of disease came first, or whether there are other explanations for the observed association.”

Source: [JAMA](#)

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