

Study examines breast cancer mortality after ductal carcinoma in situ diagnosis

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Mammograms showing a normal breast (left) and a breast with cancer (right).
Credit: Public Domain

Researchers estimate the 20-year breast cancer-specific death rate for women diagnosed with ductal carcinoma in situ to be 3.3 percent, although the death rate is higher for women diagnosed before age 35 and for black women, according to an article published online by *JAMA Oncology*.

Ductal carcinoma in situ breast (DCIS) cancer, which is also referred to as stage 0 [breast cancer](#), accounts for about 20 percent of the breast cancers detected through mammography. Some women with DCIS experience a second breast cancer (DCIS or invasive) and a small proportion of patients with DCIS ultimately die of breast cancer. However, it is not clear what factors might predict mortality after a DCIS diagnosis. Women who develop an [invasive breast cancer](#) on the same side of the body have an increased risk of death but some women die without first receiving a diagnosis of local invasive disease.

Steven A. Narod, M.D., F.R.C.P.C., of the Women's College Hospital, Toronto, and coauthors used the Surveillance, Epidemiology and End Results (SEER) 18 registries database to study women diagnosed with DCIS from 1988 to 2011. The study ultimately included 108,196 women whose risk of dying of breast cancer was compared with that of women in the general population. The average age at diagnosis for women was nearly 54 and the average duration of follow-up was 7.5 years.

The authors estimated the 10-year breast cancer-specific death rate after DCIS diagnosis to be 1.1 percent and the rate at 20 years to be 3.3 percent. Compared with women in the general population, the risk of dying of breast cancer for a women who had a DCIS diagnosis was 1.8 times higher, according to the results.

At 20 years, the death rate was higher for women who received a diagnosis before age 35 compared with older women (7.8 percent vs. 3.2 percent) and for black women compared with non-Hispanic white women (7 percent vs. 3 percent).

The authors note the finding of "greatest clinical importance" was that preventing an ipsilateral (on the same side of the body) invasive recurrence did not prevent death from breast cancer. Among all patients, the risk of ipsilateral invasive recurrence at 20 years was 5.9 percent and

the risk of contralateral (on the other side of the body) invasive recurrence was 6.2 percent.

For patients who had a lumpectomy, radiotherapy was associated with reduced the risk of developing an ipsilateral invasive recurrence (2.5 percent vs. 4.9 percent) but did not reduce breast cancer-specific death at 10 years (0.8 percent vs. 0.9 percent), the results indicate. Similarly, patients who had unilateral (single breast) mastectomy had a lower risk of ipsilateral invasive recurrence at 10 years than patients who had lumpectomy (1.3 percent vs. 3.3 percent) but had a higher breast cancer-specific death rate (1.3 percent vs. 0.8 percent).

A total of 517 women died of breast cancer following a DCIS diagnosis without experiencing an invasive cancer in the breast prior to death.

"Some cases of DCIS have an inherent potential for distant metastatic spread. It is therefore appropriate to consider these as de facto breast cancers and not as preinvasive markers predictive of a subsequent invasive cancer. The outcome of [breast cancer mortality](#) for DCIS patients is of importance in itself and potential treatments that affect mortality are deserving of study," the study concludes.

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Editor's Note: An author made a conflict of interest disclosure. Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc.

Editorial: Rethinking the Standard for Ductal

Carcinoma In Situ Treatment

In a related editorial, Laura Esserman, M.D., M.B.A., and Christina Yau, Ph.D., of the University of California, San Francisco, write: "As demonstrated by Narod and colleagues in this large observational study of more than 100,000 women with a diagnosis of DCIS, the risk of dying from breast cancer is low. ... A second important insight from the article by Narod et al is that there are uncommon cases in which DCIS has a higher risk than has been appreciated. ... A third key insight is that aggressive treatment (radiation therapy after lumpectomy) of almost all DCIS does not lead to a reduction in breast cancer mortality ... A fourth insight is bilateral risk over the long term. ... Questions remain - but there is room to innovate. If we want the future to be better for [women](#) with DCIS, we have to be committed to testing new approaches to care."

(*JAMA Oncol.* Published online August 20, 2015. [DOI: 10.1001/jamaoncol.2015.2607](#). Available pre-embargo to the media at <http://media.jamanetwork.com>.)

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