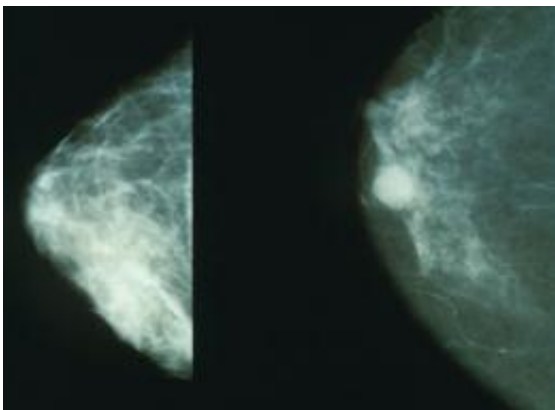


Women with atypical hyperplasia are at higher risk of breast cancer

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Mammograms showing a normal breast (left) and a cancerous breast (right).
Credit: Wikipedia.

Women with atypical hyperplasia of the breast have a higher risk of developing breast cancer than previously thought, a Mayo Clinic study has found. Results of the study appear in a special report on breast cancer in the *New England Journal of Medicine*.

Atypical hyperplasia of the breast is a precancerous condition found in about one-tenth of the over 1 million [breast biopsies](#) with benign findings performed annually in the United States. Viewed under a microscope, atypia contains breast cells that are beginning to grow out of control (hyperplasia) and cluster into abnormal patterns (atypical). Atypia lesions are considered benign, but by its risk and appearance and

genetic changes, they exhibit some of the early features of cancer.

Data from hundreds of women with these benign lesions indicate that their absolute risk of developing [breast cancer](#) grows by over 1 percent a year. The study found that after five years, 7 percent of these women had developed the disease; after 10 years, that number had increased to 13 percent; and after 25 years, 30 percent had breast cancer.

The finding places the more than 100,000 women diagnosed each year with atypical hyperplasia—also known as atypia—into a high-risk category, where they are more likely to benefit from intense screening and use of medications to reduce risk.

"By providing better risk prediction for this group, we can tailor a woman's clinical care to her individual level of risk," says Lynn Hartmann, M.D., an oncologist at Mayo Clinic and lead author of the study. "We need to do more for this population of women who are at higher risk, such as providing the option of MRI screenings in addition to mammograms and encouraging consideration of anti-estrogen therapies that could reduce their risk of developing cancer."

Previous research has shown that women with atypia have a fourfold to fivefold increased "relative risk"—meaning that they are four to five times more likely to develop breast cancer than women who don't have these lesions. But few studies have had the patient numbers and follow-up time to report the patients' "absolute risk"—the chance that she will develop breast cancer over a certain period of time.

To clearly define this risk, the Mayo Clinic team followed 698 women with atypia who had been biopsied at Mayo Clinic between 1967 and 2001. They reviewed pathology and medical records, and used patient follow-up questionnaires to determine which women developed breast cancer and when. The researchers found that after an average follow-up

of 12.5 years, 143 women had developed the disease.

Importantly, the Mayo findings were validated by researchers at Vanderbilt University using biopsies from a separate cohort of women with atypia. Both data sets revealed that at 25 years following biopsy, 25 to 30 percent of these women had developed breast cancer.

The Mayo team had previously showed that two common statistical risk prediction models (the BCRA1 and the IBIS models) performed poorly in women with atypical hyperplasia, underscoring the need to provide alternative approaches for predicting risk in this population.

"Instead of relying on a statistical model, our study provides actual data of breast cancer cases that occurred in a population of women with atypia. These absolute risk data are preferable to a hypothetical model," says Amy Degnim, M.D., co-lead author and a breast surgeon at Mayo Clinic.

The researchers were able to give an even more accurate estimate of risk by incorporating information from a patient's pathology specimen. They found that as the extent of atypia in a biopsy increased, as measured by the number of separate atypia lesions or foci, so did the woman's risk of developing breast cancer. For example, at 25 years post-biopsy, 47 percent women with three or more foci of atypia in the biopsy had developed breast cancer, compared to only 24 percent of women with one focus.

Based on these results, the research team recommends that women with atypical hyperplasia be recognized as having significantly increased lifetime risk of breast cancer and thus be candidates for screening MRI. Moreover, anti-estrogen medications like tamoxifen have already been tested in clinical trials in women with atypia and shown to lower their risk of breast cancer by 50 percent or more. Yet, Dr. Degnim says, many

women with atypia are not taking the medications, in part because they and their physicians have not had solid estimates of their breast cancer risk to guide them.

Provided by Mayo Clinic

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