New data contradict current recommendations for management of breast biopsy abnormalities

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Contrary to existing understanding, long-term follow-up of patients with two types of breast tissue abnormalities suggests that both types of abnormalities have the same potential to progress to breast cancer, according to a study published in *Cancer Prevention Research*, a journal of the American Association for Cancer Research. Findings from this study could improve clinical management of patients with breast tissue abnormalities.

This study challenges current understanding that atypical ductal hyperplasia (ADH), a type of breast tissue abnormality, leads to breast cancer in the same breast while atypical lobular hyperplasia (ALH), another type of breast tissue abnormality, may not be a direct precursor of breast cancer, but may indicate equal risk of breast cancer across both breasts.

"Ours is the first report with sufficient numbers of both types of atypia and long-term follow-up for breast cancers that compared the side of breast that had atypia with the side of breast in which cancer arose and the timeframe when the cancers developed," said Lynn C. Hartmann, M.D., professor of oncology at the Mayo Clinic in Rochester, Minn. "We showed that even though the two types of atypia look different histologically, they behave quite similarly in terms of what happens to patients.

"More than a million American women have a breast biopsy with benign findings every year, and about 10 percent of these biopsies reveal atypical hyperplasia, a premalignant finding with a proliferation of abnormal cells, which have some but not all the features of a breast cancer," she added. "There are two types of atypical hyperplasia based on their microscopic appearance—ADH and ALH—and it has been thought that they behave differently.

"Most have considered ADH a direct precursor to breast cancer, arguing that it requires complete surgical excision while others have maintained that ALH serves as an indicator of heightened and equal risk of breast cancer across both breasts and does not need complete surgical removal," explained Hartmann. "Moreover, some experts have argued that women with atypia develop 'better risk' breast cancers, meaning low-grade cancers with a good prognosis."

Hartmann and colleagues identified 698 women from the Mayo Benign Breast Disease Cohort who had biopsy-confirmed atypia; 330 of them had ADH, 327 had ALH, and 32 had both. The investigators followed these women for an average of 12.5 years, and 143 of them developed breast cancer.

The investigators found that the ratio of breast cancer in the same breast in which the atypia was detected versus in the opposite breast was the same, 2:1, for both ADH and ALH.

A similar number of women with either ADH or ALH developed breast cancer in the same breast within five years of diagnosis, which led the authors to suggest that, like ADH, ALH may also be a precursor in addition to being a risk indicator.

Contrary to current understanding that ALH might mostly lead to the development of lobular cancer, this study found that ALH predominantly resulted in ductal cancer of the breast, which is a similar outcome as with ADH. Both ADH and ALH resulted in invasive ductal cancers, of which 69 percent were of intermediate or high grade. About 25 percent of them had spread to the lymph nodes. The pattern of cancers in these patients resembled

those seen in the general population.

"If a woman has a breast biopsy and if it shows atypia, it might be wise for her to be seen at a breast center for recommendations about surveillance and preventive therapy options," said Hartmann. "We hope these data will further help clinicians make informed decisions for breast atypia management strategies."

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