

Breastfeeding, Other Factors May Affect Risk of Breast Cancer Type

Atlanta 2008/08/25 -Factors such as age at menopause as well as a woman's breastfeeding practices can influence her risk of developing certain types of breast cancer. That was the conclusion of a new study published in the October 1, 2008 issue of *CANCER*, a peer-reviewed journal of the American Cancer Society. The study's results suggest that there are distinct and separate hormonal risk factors associated with different subtypes of breast cancer.

Clinical differences among breast cancer subtypes have been well-described, but researchers have limited data on how the various subtypes arise and which individuals are at greatest risk. Having this information could help physicians identify which women are more likely to develop certain subtypes of breast cancer, which respond differently to different anti-cancer therapies and have very different survival rates.

Amanda Phipps, a predoctoral research associate at the Fred Hutchinson Cancer Research Center in Seattle, and her colleagues conducted a study to better understand the specific risk factors for the subtypes of breast cancer, which are classified by expression of the estrogen receptor, the progesterone receptor, and the HER2 receptor. Some breast cancer types express one or more of these proteins on their cell surface, while others express none. The research team suspected that reproductive or hormonal factors may play a significant role in a woman's risk of developing different subtypes because these cell receptors are influenced by endogenous sex hormones.

For their study, the scientists pooled two population-based studies of breast cancer in women aged 55-79 years. Their analysis included 1,023 women with breast cancer whose cells express the estrogen and progesterone receptors (called luminal cancers), 39 women with HER2-overexpressing breast cancer, and 78 triple-negative cases (no expression of estrogen, progesterone, or HER2 receptors). The study also included 1,476 women without breast cancer.

The investigators found that reproductive risk factors varied considerably by breast cancer subtype. For example, early age at menarche was associated with risk of HER2-overexpressing disease but not with any other subtype. Breastfeeding for 6 months or longer was associated with a lower risk of luminal cancer as well as triple-negative cancer, a type that can be particularly aggressive and difficult to treat. Both late age at menopause and use of estrogen plus progestin hormone therapy were associated with an increased risk of luminal disease. Finally, no differences in risks associated with number of children or the age when a woman first gave birth were observed by subtype.

The study authors concluded that their results indicate that "certain reproductive factors may have a greater impact on risk of certain molecular subtypes of disease compared to others." They added that additional studies on the causes of breast cancer subtypes are needed to better understand the biology of the disease.

Article: "Reproductive and hormonal factors for postmenopausal luminal, HER2-overexpressing, and triple-negative breast cancer." Amanda I. Phipps, Kathleen E. Malone, Peggy L. Porter, Janet R. Daling, and Christopher I. Li. *CANCER*; Published Online: August 25, 2008 (DOI: 10.1002/cncr.23786); Print Issue Date: October 1, 2008.

David Sampson
Director, Medical & Scientific Communications
American Cancer Society
213 368-8523
david.sampson@cancer.org
