Early Puberty in Girls Increases Adult Breast Cancer Risk. Here's Why.

A growth hormone and estrogen exposure could explain why those who experience early puberty are at greater risk.

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Young women who reach puberty at an early age are at greater risk of developing breast cancer. Now a new study published in the Journal of Adolescent Health by researchers at Cincinnati Children's Hospital Medical Center and the University of Cincinnati pinpoints which hormonal factors may explain why this is the case, reports Cincinnati Children's.

For the study, researchers analyzed data concerning 180 girls from the Cincinnati region who entered the Growing Up Female study in 2004 at ages 6 and 7 and remained in the study for 14 years. Throughout the investigation, the girls provided multiple blood samples.

Scientists tracked their height and height velocity (how quickly they shot up), weight, breast development, menstrual cycles and hormone levels. In addition, demographic, geographic, environmental and behavioral information was gathered during interviews and from questionaries.

Study findings revealed that adult women had hormonal factors associated with a higher risk of breast cancer that were also associated with early puberty. One factor was a higher concentration of insulin-like growth factor (IGF-1), a potent growth stimulant associated with breast density—and breast cancer—in adult women. The second was a greater ratio of the hormone estrogen to the hormone androstenedione, which led to a greater exposure of estrogen, another risk factor for breast cancer.

Despite these risks, researchers noted, girls who experience early puberty can take steps to reduce their risk of breast cancer. These include adhering to a healthier lifestyle that incorporates regular exercise and increasing the consumption of fruits, vegetables and other foods that contain plant-based weak estrogens called phytoestrogens. Maintaining a healthy body weight is also important, as obesity is a known risk factor for breast cancer.

In addition, parents should minimize their daughters' exposure to endocrine-disrupting chemicals such as phthalates, which are found in many consumer products—including detergent, nail polish, soap and children's toys—and have been linked to breast cancer.

These findings may also help doctors determine which girls are most at risk and whether to consider treatments to delay puberty, including targeting IGF-1 levels. Further study is needed to determine whether targeting IGF-1 is an effective approach to delaying puberty, the researchers noted, and whether doing so would actually reduce breast cancer risk.

For related coverage, read "Can Weight Gain Reduce Premenopausal Breast Cancer Risk?" and "Fiber-Rich Foods May Lower Breast Cancer Risk."

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