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Women born to older mothers have a higher risk of developing breast cancer

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A new study analyses the influence that certain birth and infancy characteristics have on mammographic density – an important indicator of breast cancer risk. The results reveal that women born to mothers aged over 39 years and women who were taller and thinner than the average girl prior to puberty have a higher breast density. This brings with it an increased risk of developing breast cancer.

Although the role that mammographic density plays in breast cancer has been known for years, researchers at the Carlos III Health Institute (ISCIII) have now headed a study that explores the influence of certain characteristics on mammographic density. These include the proportion of white area on the mammogram, which is an important indicator of breast cancer risk.

Published in the *Breast Cancer Research and Treatment* journal, the study was conducted on a sample of 3,574 women aged between 45 and 68 years. It was assisted by the screening programmes of seven of Spain's autonomous communities (Aragon, the Balearic Islands, Castilla-León, Catalonia, Galicia, Navarra and Valencia).

The results reveal that women born to older mothers (above 39 years) and those who were taller and thinner than average before puberty are more prone to have a higher mammographic density as an adult.

Virginia Lope, lead author of the study and researcher at the National Centre for Epidemiology at the ISCIII, explains that "accumulated

exposure to hormones along with growth factors in the earlier stages of life when the breasts begin to develop both condition breast tissue composition and influence the probability of developing a tumour as an adult."

A powerful biomarker

During the 2010 annual meeting of the American Association for Cancer Research (AACR), various studies were presented that support the results of other studies published a few years earlier. Such research showed that women with a mammographic density of 75% or above are five times more likely to develop breast cancer in comparison to women with a low density.

Furthermore, studies demonstrate that women who experience a reduction in breast density over six years are less at risk than those whose breast density remains stable.

Although breast density is clearly hereditary, other factors have an influence. These include the age of the women when she has her first child and the number of children she has. The authors therefore conclude that "many studies used mammographic density to investigate the possible influence of other exposures in breast cancer risk."

More information: Virginia Lope; Beatriz Pérez-Gómez; María Pilar Moreno; Carmen Vidal; Dolores Salas-Trejo; Nieves Ascunce; Isabel González Román; Carmen Sánchez-Contador; María Carmen Santamariña; José Antonio Vázquez Carrete; Francisca Collado-García; Carmen Pedraz-Pingarrón; María Ederra; Francisco Ruiz-Perales; Mercé Peris; Soledad Abad; Anna Cabanes; Marina Pollán. "Childhood factors associated with mammographic density in adult women". *Breast Cancer Research and Treatment,* Dec 2011. DOI 10.1007/s10549-011-1664-2

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