

## BREAST CANCER

**Risk of death not increased for patients with dense breasts**

Elevated mammographic density is well established as one of the strongest risk factors for non-familial breast cancer. High breast density increases the risk of breast cancer by fourfold to fivefold, and is associated with adverse prognostic features. What is unclear is whether women with breast cancer and high

density are at an increased risk of death from breast cancer compared with women with breast cancer but less-dense breasts. In the largest comprehensive investigation to date, Gretchen Gierach and coauthors have now shown that high density is not associated with an increased risk of death from breast cancer, after adjusting for all other known prognostic factors.

The researchers, on behalf of the US Breast Cancer Surveillance Consortium, analysed data from a population-based registry of over 9,000 women with invasive breast cancer. Interestingly, the study showed that some obese women with low-density breasts or those diagnosed with large tumours (>2 cm) had a worse prognosis: “this is the first observation of a relationship between low mammographic density and adverse prognoses in obese women,” explains Gierach who continues, “given the rising prevalence of obesity worldwide, these findings have potential public health importance.”

Women with high breast density have a greater percentage of fibroglandular tissue,

but it is not clear why high density is related to increased breast cancer risk. Hence, the findings by Gierach’s team, “underscore the need for an improved understanding of the biological components that are responsible for density.”

Gierach and her colleagues are conducting molecular epidemiological research to understand the risks associated with high breast density. Gierach elaborates on her team’s future plans, “one challenge is to identify which dense breasts pose the greatest risks and another goal is to understand the mechanisms that underlie cancer risk related to having dense breasts. Achieving the former could improve prediction for breast cancer, whereas attaining the latter would suggest avenues for prevention.”

*Lisa Hutchinson*

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