

Low breast density in mammography worsens breast cancer prognosis

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Very low mammographic breast density worsens the prognosis of breast cancer, according to a recent study from the University of Eastern Finland. Disease free survivals as well as overall life expectancies were significantly shorter in women with very low-density breasts in comparison to women with high density breast tissue. The lower the breast tissue density, the less fibroglandular tissue there is compared to fat tissue.

In the future, these findings may prove significant for the assessment of [breast cancer prognosis](#) and treatment planning.

The study involved 270 [breast cancer patients](#) at Kuopio University Hospital, aged between 32 and 86 years. Breast tissue density was analysed on the basis of mammographic images obtained at the time of diagnosis. The researchers determined the proportion of dense glandular tissue of the overall breast area. Breast tissue density was categorised as low when the proportion of glandular tissue was below 25%, and as very low when the proportion of glandular tissue was below 10%. The study was a six-year follow up focusing on the effects of [breast tissue density](#) and other mammographic features on breast cancer prognosis.

The results indicate that a very low [breast tissue](#) density is an independent poor prognostic factor of breast cancer, regardless of patients' age, menopausal status or body mass index. Out of the women with very low breast tissue density, 70.7% were alive at the end of the six-year follow-up, whereas out of women whose proportion of glandular

tissue was higher than 10%, 87.7% were alive at the same time. Lower breast tissue density was also associated with more aggressive higher grade tumours.

The results are particularly interesting because dense breast tissue has long been known to be associated with an increased risk of cancer. "It is difficult to detect small tumours when screening dense breasts, and this results in a higher occurrence of clinically detectable interval cancers. In the U.S., it is nowadays mandatory to let patients know if they have dense breast tissue. This allows them to choose whether they wish to have further tests, for example a screening ultrasound," says Professor Ritva Vanninen.

"It could be assumed that dense breast tissue would also be associated with a poorer prognosis in patients with a recently diagnosed [breast cancer](#). However, this was not the case in our study, as low breast tissue density specifically weakened the prognosis."

More information: Masarwah A1, Auvinen P, Sudah M, Rautiainen S, Sutela A, Pelkonen O, Oikari S, Kosma VM, Vanninen R. Very low mammographic breast density predicts poorer outcome in patients with invasive breast cancer. *European Radiology*. 2015 Mar 4 (Published ahead of print).

Provided by University of Eastern Finland

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