

New study gives further hope that vitamin D can fight breast cancer

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Vitamin D may help curb breast cancer progression, according to a study published today in the *Journal of Clinical Pathology*. The authors, from Imperial College London, measured the levels of vitamin D in the blood serum of 279 women with invasive breast cancer. The disease was in its early stages in 204 of the women, and advanced in the remaining 75.

The results showed that women with early stage disease had significantly higher levels of vitamin D (15 to 184 mmol/litre) than the women in the advanced stages of the disease (16 to 146 mmol/litre).

The authors say that the exact reasons for the disparity are not clear, nor is it known whether the lowered levels of vitamin D among those with advanced disease are a cause or a consequence of the cancer itself. However, the researchers' results, taken together with results from previous studies, lead them to believe that lowered levels of vitamin D may promote the progression of the disease to its advanced stages.

Laboratory studies have shown that vitamin D stops cancer cells from dividing and enhances cancer cell death. Vitamin D sufficiency and exposure to sunlight has been shown to reduce the risk of developing breast cancer. The body produces its own vitamin D in the skin when it is exposed to sunlight. The vitamin is also found in certain foods, including eggs and fatty fish.

It is known that vitamin D treatment boosts the activity of certain key genes and dampens it down in others. One that is boosted is p21, which

has an important role in controlling the cell cycle.

Dr Carlo Palmieri, from the Department of Cancer Medicine at Imperial College London and lead author on the paper, said: "This report, while being an observational study, clearly shows that circulating vitamin D levels are lower in advanced breast cancer as compared to early breast cancer. It lends support to the idea that vitamin D has a role in the progression of breast cancer.

"The next step in this research is to try and understand the potential causes and mechanisms underlying these differences and the precise consequences at a molecular level. We also need to look at the potential clinical implications of monitoring and maintaining high circulating vitamin D levels in breast cancer patients. By answering these questions we may be able to improve the treatment of women with breast cancer," he added.

Source: Imperial College London

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