

Drug offers prevention hope for women with BRCA breast cancer gene

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Tamoxifen may offer hope for women with a gene mutation that puts them at a high risk of developing breast cancer. Credit: Paloma León y Luismi Cavallé

Use of the anti-cancer drug Tamoxifen is associated with a dramatically reduced risk of developing a second breast tumour among women with a high risk gene mutation who have experienced breast cancer already, a new [study](#) has found.

Tamoxifen blocks the [hormone oestrogen](#) and is already used to prevent [breast cancer](#). Until now, however, it was not routinely taken by [women](#) with the gene mutations BRCA 1 and BRCA 2, which put them in the highest risk category for breast cancer.

Actress Angelina Jolie recently had a [double mastectomy](#) after discovering she carried the gene mutation BRCA1.

The new study, published today in the *Journal of Clinical Oncology*, analysed data on 2,464 women from Europe, North America and Australia who carried the BRCA1 or BRCA2 mutations.

The researchers found that taking Tamoxifen was associated with a reduced risk of developing a second cancer among women with the gene mutations.

"We have known for a few years that Tamoxifen is effective for preventing breast cancer in women who are at somewhat increased risk but there's always been considerable controversy about whether that was also true for women at the highest risk, that is, women who carry BRCA 1 or BRCA2 gene mutation," said lead author Professor Kelly-Anne Phillips from the University of Melbourne and Melbourne's Peter MacCallum Cancer Centre

"This study shows Tamoxifen may be effective in that important sub group as well."

Professor Phillips said although Tamoxifen is less effective than surgery, the findings provided another choice for women who wanted to avoid surgical options.

"The take home message is these women should go back to their specialists and talk through their risk management options."

This research was supported by funding from Cancer Australia, the National Breast Cancer Foundation.

Prevention strategy

Professor Geoff Lindeman from the Breast Cancer Laboratory at Walter and Eliza Hall Institute, said it was an important finding that showed that Tamoxifen may offer a possible prevention strategy for women with BRCA1 and BRCA2.

"Historically, the uptake of this drug has not been great for high risk women who are looking for ways to prevent breast cancer," he said.

"This is partly due to the fear of potential side effects which can include cancer of the womb or blood clots. However, for younger women the risk of cancer of the womb is not great and the risk of clots is about the same as for women who take the pill. Tamoxifen can also cause hot flushes," said Professor Lindeman, who was not involved in the study.

"This study provides new information in an area where we haven't had much data to go on. It should increase the confidence that Tamoxifen may offer an additional strategy to help prevent breast cancer for BRCA mutation carriers."

Ian Olver, Clinical Professor of Oncology at Cancer Council Australia, said the finding was based on a large study "that showed a reduction in risk for those [gene mutation](#) carriers in the contralateral breast".

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