

Women with breast cancer gene mutation more likely to survive cancer after double mastectomy

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Women who carry a mutation on the BRCA breast cancer gene - and are diagnosed with early stage breast cancer - are significantly less likely to die if they undergo a double mastectomy than those who have only one breast removed, suggests a paper published in *BMJ* today.

The authors say [double mastectomy](#) should be discussed as an option for [young women](#) with a BRCA mutation and early onset [breast cancer](#). However, given the small number of women in this group, further research is required to confirm the findings.

Women who carry a BRCA1 or BRCA2 gene mutation face a lifetime risk of breast cancer of 60 – 70% and once diagnosed with breast cancer face a high risk of second primary breast cancer. There is little information on the long-term survival experience of women with either of these genes who are treated for breast cancer.

In North America, one half of women with a BRCA mutation will undergo a double breast removal to prevent a second breast cancer, but it has not yet been shown that this reduces the risk of death.

Researchers from the US and Canada set out to review the twenty year survival experience of 390 women (from 290 different families) with early-stage breast cancer, diagnosed from 1975 to 2009. The women were either known to be carriers or were likely to be carriers of the

BRCA1 or BRCA2 gene and were treated with single or double mastectomy.

Of these 390 patients, 44 were initially treated with bilateral (double) mastectomy and 346 were initially treated with unilateral (single) mastectomy.

Of those that were treated with unilateral mastectomy, 137 went on to have the other breast removed at a later date (contralateral mastectomy). The average time from diagnosis to contralateral mastectomy was two years.

Over the 20 year follow-up period, 79 women died of breast cancer (18 in the bilateral mastectomy group and 61 in the unilateral mastectomy group).

Results showed that having both breasts removed was associated with a significant (48%) reduction in breast cancer death compared with having only one breast removed over a 20 year period.

Based on these results, the researchers predict that of 100 women treated with double mastectomy, 87 will be alive at 20 years compared with 66 of 100 women treated with single mastectomy.

The authors say bilateral mastectomy should be discussed as an option for young women with a BRCA mutation and early onset breast cancer. However, given the small number of women in this group, further research is required to confirm the findings.

The significant mortality benefit associated with a double breast removal was most apparent in the second decade of follow-up after initial breast cancer diagnosis. The majority of deaths during this time period (55%) occurred among women who experienced a second breast cancer.

The researchers conclude that it is "reasonable to propose bilateral mastectomy as the initial treatment option for a woman with early-stage breast cancer who carries a BRCA1 or BRCA2 mutation". They suggest further discussion with women who have previously had one breast removed. They also suggest that women with newly-diagnosed breast cancer might benefit from knowing they carry a BRCA mutation.

In an accompanying editorial, Dr Karin Michels, from Harvard Medical School, says that carriers of a mutation in the BRCA1/2 gene who develop breast cancer face a similar decision to that of Angelina Jolie, who recently underwent a double preventative mastectomy.

Dr Michels says that although Metcalfe's study suggests a significant reduction in breast cancer related deaths with a double mastectomy, "larger studies tackling this issue are needed and will undoubtedly be generated in the years to come". She adds that breasts are an "essential part of [women's](#) identity, sexuality, and self perception" and that no statistics can make the decision on whether a woman will opt to undergo a double mastectomy.

More information: Paper: Contralateral mastectomy and survival after breast cancer in carriers of BRCA1 and BRCA2 mutations: retrospective analysis, *BMJ*, 2014.

Editorial: Contralateral mastectomy for women with hereditary breast cancer, *BMJ*, 2014.

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