BRCA2 mutations associated with improved survival for ovarian cancer

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Women with ovarian cancer who have the BRCA2 gene mutation are more likely to survive the malignancy than women with the BRCA1 mutation, or women without either mutation.

In results presented at the AACR 102nd Annual Meeting 2011, held April 2-6, Kelly Bolton, a fellow at the National Cancer Institute, said the findings describe the effect of these mutations in ovarian cancer survival.

"There was some previous evidence that women with ovarian cancer who have mutations in the BRCA genes show improved survival compared to non-mutation carriers," said Bolton. "Our study clearly shows that this survival difference is real. We also provide the first solid evidence that BRCA1 and BRCA2 mutations don't have the same impact on ovarian cancer survival."

"Previous studies have been somewhat conflicting because of their small size and methodological limitations," she added.

Bolton and colleagues evaluated 3,531 cases of epithelial ovarian cancer, including 1,178 women with BRCA1 mutations, 367 with BRCA2 mutations, and 1,986 with neither mutation. Overall, women with either the BRCA1 or BRCA2 mutation had better survival compared to patients who carried the wild-type for both genes. After adjusting for baseline characteristics, the five-year survival of women without mutations was 36 percent. Survival for BRCA1 or BRCA2 mutation carriers was 46 percent and 61 percent, respectively.

Bolton said further study is needed to explain why women with BRCA2 mutations had better survival than BRCA1 carriers, or those without either mutation. She hypothesized the mutations may affect a patient's response to chemotherapy.

Approximately 1 in 400 to 1 in 800 women are born with mutations in either BRCA1 or BRCA2, which are known to predispose carriers to the development of ovarian and breast cancer. The risks differ between the two mutations. Roughly 5 percent of ovarian cancer patients carry mutations in BRCA1 or BRCA2.

"This information may lead to improvements in clinical management of patients with these mutations," she suggested.

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