

Researchers report no difference in breast cancer characteristics after oophorectomy

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More than half a million women in the United States undergo a hysterectomy each year and approximately half of those surgeries include removal of the ovaries. Researchers know that removing a woman's ovaries is associated with a reduction in the risk of developing breast cancer, but it has not been clear whether those cancers that do arise in these women differ from breast cancers in the general population. Now, investigators at Fox Chase Cancer Center report that women who have had a bilateral oophorectomy tend to have smaller tumors and to have their tumors detected by mammography rather than by physical exam. The use of hormone therapy after surgery, however, wipes out any difference in tumor size or detection method.

The investigators, led by James R. Nitzkowski, M.D., a surgical oncology fellow at Fox Chase, will present their results at the 46th Annual Meeting of the American Society of Clinical Oncology on Saturday, June 5.

"It is helpful to know that tumors that develop after bilateral oophorectomy are not necessarily a more aggressive type of disease," Nitzkowski says. "There was no difference in overall survival or in prognostic factors, such as estrogen receptor status, [progesterone](#) receptor status, or HER2/neu status between [women](#) who had had an oophorectomy or not."

Removal of a woman's ovaries is associated with an 11% decrease in lifetime risk of [breast cancer](#) (the risk reduction associated with the

surgery climbs to about 50% in women with a BRCA1/2 mutation). Given that reduction in risk, Nitzkorski and colleagues initially hypothesized that the tumors that do develop in women after a bilateral oophorectomy might be worse than the tumors that arise in the general population because they had to overcome the protective environment that exists in the absence of ovaries--that was not the case.

"I think women can be counseled that although they have developed breast cancer in the protective environment of an oophorectomy, we don't expect their cancer will be any better or worse than that of a woman who didn't have an oophorectomy," Nitzkorski says.

To evaluate the impact of ovary removal on breast cancers, the team identified 687 women diagnosed with invasive breast cancer between 2004 and 2008 at Fox Chase and who had a known ovary status. Of these, 71 (10.3%) had undergone a prior bilateral oophorectomy. The women who had had their ovaries removed were significantly more likely to have taken hormone replacement therapy than women who still had their ovaries, 56.3% versus 19.0%.

Tumors in the women who had undergone a bilateral oophorectomy were smaller than those in women who had their ovaries, with a median of 1.3 cm compared with 1.5 cm, which was a statistically significant difference. Additionally, mammographic detection was more common in women who had had their ovaries removed than in women with their ovaries, 69.0% compared with 47.9%, respectively. Although patient's cancer tumor and lymph node staging was accounted for, Nitzkorski and colleagues have not seen any difference in overall survival related to oophorectomy with in their 20 months of follow up

Provided by Fox Chase Cancer Center

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