Study shows breastfeeding, birth control may reduce ovarian cancer risk in women with BRCA mutations

May 14 2014

Breastfeeding, tubal ligation – also known as having one's "tubes tied" – and oral contraceptives may lower the risk of ovarian cancer for some women with BRCA gene mutations, according to a comprehensive analysis from a team at the University of Pennsylvania's Basser Research Center for BRCA and the Abramson Cancer Center. The findings, a meta-analysis of 44 existing peer-reviewed studies, are published in the *Journal of the National Cancer Institute*.

The researchers, from Penn's Perelman School of Medicine, found that breastfeeding and tubal ligation are associated with reduced rates of ovarian cancer in BRCA1 mutation carriers, and the use of oral contraceptives is associated with a reduced risk of ovarian cancer in patients with BRCA1 or BRCA 2 mutations. The analysis also helped better define factors that may increase risk among this population: Smoking, for instance, may raise the risk of breast cancer for patients with a BRCA2 mutation. Though the team cautions that more data are required before definitive conclusions about these variables can be made, the findings help to shed light on non-surgical risk reduction options for women who may not be ready to undergo prophylactic removal of their ovaries to cut their cancer risk.

"Our analysis reveals that heredity is not destiny, and that working with their physicians and counselors, women with BRCA mutations can take proactive steps that may reduce their risk of being diagnosed with

ovarian cancer," says lead author Timothy R. Rebbeck, PhD, professor of Epidemiology and Cancer Epidemiology and Risk Reduction Program Leader at Penn Medicine's Abramson Cancer Center. "The results of the analysis show that there is already sufficient information indicating how some variables might affect the risk of cancer for these patients."

BRCA1 and BRCA2 are human genes that produce tumor-suppressing proteins. A woman's risk of developing breast or ovarian cancer is notably increased if she inherits a harmful mutation in either the BRCA1 gene or the BRCA2 gene from either parent. Fifty-five to 65 percent of women who inherit a harmful BRCA1 mutation, and about 45 percent of women who inherit a harmful BRCA2 mutation will develop breast cancer by age 70, compared to approximately 12 percent of women in the general population. Thirty-nine percent of women who inherit a harmful BRCA1 mutation and up to 17 percent of women who inherit a harmful BRCA2 mutation will develop ovarian cancer by age 70, compared to only 1.4 percent of women in the general population. Both BRCA mutations have also been associated with increased risks of several other types of cancer.

Though the study's findings point to a helpful role for birth control pills in cutting ovarian cancer risk, the relationship between oral contraceptives and breast cancer risk was ambiguous. The authors say women and their health care providers should weigh the potential benefits of oral contraceptives (reduction in ovarian cancer risk, avoidance of unintended pregnancy, and regulation of menstrual cycles, for instance) against the potential risks (such as blood clots or the possible increased risk of breast cancer). There was also insufficient evidence to draw conclusions about the relationships between breastfeeding and tubal ligation, respectively, and breast cancer. Future research aims to examine these issues as well as how other variables, such as alcohol consumption, affect the risk of breast and ovarian cancer for BRCA mutation carriers. Since BRCA testing is relatively new,

researchers have struggled to conduct large studies to examine these trends due to limited availability of large numbers of prospectively identified BRCA1/2 mutation carriers.

"Patients deserve better cancer-risk reduction options than surgically removing their healthy breasts and ovaries," said Susan Domchek, MD, executive director of the Basser Research Center for BRCA and co-author on the new paper. "It's imperative that we continue examining and building upon past research in this area so that we can provide BRCA mutation carriers with options at every age, and at every stage of their lives."

More information: jnci.oxfordjournals.org/cgi/content/full/dju091

Provided by University of Pennsylvania School of Medicine

Citation: Study shows breastfeeding, birth control may reduce ovarian cancer risk in women with BRCA mutations (2014, May 14) retrieved 28 April 2024 from https://medicalxpress.com/news/2014-05-breastfeeding-birth-ovarian-cancer-women.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.