Two reproductive factors are important predictors of death from ovarian cancer

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Researchers from the Centers for Disease Control and Prevention (CDC) found that survival among women with ovarian cancer is influenced by age of menarche and total number of lifetime ovulatory cycles.

This finding suggests that hormonal activity over the course of a woman's lifetime may influence the prognosis after an ovarian cancer diagnosis. Results of this study are published in *Cancer Epidemiology, Biomarkers & Prevention*, a journal of the American Association for Cancer Research.

Results of previous studies indicated that fewer lifetime ovulatory cycles, higher parity, oral contraceptive use, hysterectomy and tubal ligation are associated with decreased risk of developing this form of cancer, according to the researchers. However, little is known about the influence of these factors on a patient's survival after a diagnosis of ovarian cancer.

Cheryl L. Robbins, Ph.D., an epidemiologist at the CDC, and colleagues sought to explore whether these reproductive factors influence ovarian cancer survival.

"Ovarian cancer is the fifth leading cause of cancer mortality in women. It accounts for more deaths than any other gynecologic cancer," said Robbins, also a researcher on the study. "Although we have relatively good knowledge about the influence of reproductive factors on the risk

of developing ovarian cancer, knowledge is rather limited regarding the reproductive factors that may influence survival after diagnosis with this serious disease."

Robbins and colleagues conducted a longitudinal analysis of 410 women, aged 20 to 54 years. All participants were previously enrolled in the 1980-1982 Cancer and Steroid Hormone (CASH) study as incident ovarian cancer cases.

After a follow-up of about 17 years, 221 women died; findings showed that overall 15-year survival among the study population was 48 percent. Lifetime ovulatory cycle and age at menarche were two factors that played a key role in predicting death from ovarian cancer.

Women with the most lifetime ovulatory cycles had poorer survival compared with those who had fewer lifetime ovulatory cycles. Robbins explained that the number of lifetime ovulatory cycles a woman has is affected by her use of oral contraceptives, pregnancy and breastfeeding, all of which temporarily cause ovulation to cease and reduces the total number of cycles.

Furthermore, the researchers determined that those with the youngest age at menarche also had poorer survival. After diagnosis of ovarian cancer, participants whose menarche began before age 12 were more likely to die compared with those whose menarche began at age 14 or older.

"We now have evidence that higher numbers of lifetime ovulatory cycles may play a role in the development of ovarian cancer as well as the risk of death after being diagnosed with the disease," Robbins concluded.

This study points to some important future directions of research for better understanding the influence of reproductive factors on ovarian

cancer survival.

Mary B. Daly, M.D., Ph.D., director of the Personalized Cancer Risk Assessment Program at the Fox Chase Cancer Center in Philadelphia, said these results raise the question "can the amount and/or duration of reproductive hormones to which women are exposed affect the aggressiveness of ovarian cancer and/or its resistance to treatment, and if so, by what mechanism?"

"The significance of this paper is in suggesting new research directions, not in any immediate treatment changes," said Daly, who is also an editorial board member for Cancer Epidemiology, *Biomarkers & Prevention*. "The next steps would be to study this association in a prospective study, then to characterize molecular and genetic profiles of ovarian tumors and compare these profiles among different levels of exposure to reproductive hormones."

There is a need for additional studies to examine reproductive factors in other populations, specifically among older women and those of various ethnicities, according to Robbins. Additionally, she suggested that studies examining the biologic properties of ovarian tumors among women with high lifetime ovulatory cycles may help to explain the relationship between number of ovulatory cycles and mortality.

Source: American Association for Cancer Research (news : web)