How does long-term OC use affect breast, ovarian, and endometrial cancer risk?

Analysis of data from a large cross-sectional cohort and national databases that included almost 257,000 women indicates that oral contraceptive (OC) use clearly reduces the risk of ovarian and endometrial cancer over the long term, with odds ratios (OR) of 0.72 and 0.68, respectively. The OR for breast cancer (1.02), however, was similar among ever-users and never-users of OC.

FAST TRACK

While ORs for ovarian (0.72) and endometrial cancer (0.68) were lower among OC ever-users compared with never-users, the OR for breast cancer (1.02) was similar among OC ever-users and never-users (P>.05)

Karlsson T, Johansson T, Hoguland J, et al. Time-dependent effects of oral contraceptive use on breast, ovarian and endometrial cancers. Cancer Research. 2020;canres.2476.2020. doi:10.1158/0008-5472.CAN-20-2476.

EXPERT COMMENTARY

Andrew M. Kaunitz, MD, is Professor and Associate Chairman, Department of Obstetrics and Gynecology, University of Florida College of Medicine–Jacksonville; Medical Director and Director of Menopause and Gynecologic Ultrasound Services, UF Women's Health Specialists at Emerson, Jacksonville. He serves on the OBG MANAGEMENT Board of Editors.

The long-term effects of OC use on gynecologic and breast cancers has been uncertain, with different reports yielding conflicting findings. To assess the time-dependent and long-term associations between OC use and the risk of breast, ovarian, and endometrial cancer in women born between 1939 and 1970, Karlsson and colleagues used data from the UK Biobank (which includes a large cross-sectional cohort of individuals recruited between 2006 and 2010) and national databases.

Dr. Kaunitz reports serving on the advisory board of Mithra and that the University of Florida receives research funding from Mithra.

doi: 10.12788/obgm.0069

Details of the study

A total of 256,661 women were included in this study. Of these, 82% (210,443) had used or were currently using OC (ever-users) and 18% (46,218) had never used OC (never-users). There were 17,739; 1,966; and 2,462 cases of breast, ovarian, and endometrial cancer, respectively, identified.

In analyses adjusted for 10 parameters, the ORs for ovarian (OR, 0.72) and endometrial cancer (OR, 0.68) were lower among ever-users of OC compared with never-users ($P<.05$). However, the OR for breast cancer (OR, 1.02) was similar among ever-users and never-users of OC ($P>.05$).

Among women followed to age 55, results were similar for the 2 gynecologic cancers but were significantly higher for breast cancer (OR, 1.10; $P<.05$). With 20 or more years of OC use, greater prevention of ovarian (OR, 0.60) and, particularly, endometrial cancer (OR, 0.36) was observed ($P<.05$). However, the risk of breast cancer was similar in never-users and long-term users of OC.

Study strengths and limitations

A strength of this study is that, compared with most previous studies, it had a much longer follow-up period.

WHAT THIS EVIDENCE MEANS FOR PRACTICE

These study findings from a large cross-sectional cohort by Karlsson and colleagues suggest that controversy regarding the association of breast cancer with OC use may reflect different study methodologies with respect to timing. The authors note that while the lifetime risk of breast cancer may not differ between OC ever-users and never-users, there appears to be a transient elevated risk associated with OC use. By contrast, OC use, particularly when used long-term, appears to "dramatically" reduce the risk of ovarian and endometrial cancer, according to the study authors.

ANDREW M. KAUNITZ, MD

The authors noted, however, that among the potential limitations in the study design was the fact that only 6% of participants invited to the UK Biobank volunteered to participate in the study. This may have resulted in participation bias within the cohort, reflecting a healthier cohort that is not representative of the overall population. ●