

## Talking Points on the December NEJM article on Modern Contraception & Breast Cancer

### Study Findings

- Mørch, et al.(1) presented the results of a large prospective cohort study of the association between the use of newer hormonal contraceptives (including the IUD and implant) and the risk of breast cancer among 1.8 million women ages 15-49 in Denmark.
  - They observed a 20% higher risk among women who were currently using or had recently used any hormonal contraceptive than among those who had never used them (Relative Risk (RR): 1.20 95% CI, 1.14 to 12.6)
  - There were 13 more breast cancers that occurred per 100,000 women using hormonal contraception (20% more breast cancers than in women who do not use contraception).
  - The risk of breast cancer among hormonal contraceptive users increased with longer duration of use; however, the excess risk disappeared 5 years after stopping hormonal contraceptives.
  - The increase in risk was observed with current or recent use of various forms of combined birth control pills (i.e. monophasic, triphasic, levonorgestrel, norethindrone, norgestimate) and the progestin-only pill; RR estimates varied between 1.0 and 1.9.
  - Women who currently or recently used the progestin-only IUD had a higher risk of breast cancer than women who had never used hormonal contraceptives (RR 1.21; 95% CI, 1.11 to 1.33).
  - There were few breast-cancer events and no evidence of increased risk among users of the vaginal ring, transdermal patch, implant (Nexplanon) and depot medroxyprogesterone acetate (Depo Provera)

### Practice implications/Talking points:

- **Providers should counsel patients about recent study findings in the full context of risks and benefits of hormonal contraceptive use and NOT make practice changes or advise patients to stop their birth control.**
- **Increased risk is not the same as high risk.** While a 20 percent increase in risk sounds high (and it's significant statistically), it does not reflect the overall absolute increase in breast cancers.
- **In this study, the overall absolute increase in breast cancers diagnosed among current and recent users of hormonal contraceptive was low: approximately 1 extra breast cancer case for every 7690 women using hormonal contraception for 1 year**
- **The absolute increased risk was only 2 per 100,000 women younger than 35 years of age.**
- Hormonal birth control offers tremendous health benefits:
  - Pregnancy protection (maternal mortality in the US is 17 per 100,000 pregnancies)
  - 25% decrease in ovarian cancer (2), 25% decreased in endometrial cancer (3) cancer, as well as a decrease in colon cancer
  - Some research demonstrates that using hormonal contraception for longer than 5 years has a net effect of reducing your total risk of cancer. (4)

- Reducing risks of menstrual irregularities, cramps as well as primary management for polycystic ovarian syndrome, endometriosis, premenstrual dysphoric disorder, acne, facial hair growth, anemia, ovarian cysts and breast pain/cysts. (5)
- Including prevention of the social/emotional/public/physical health risks of adolescent pregnancy

Study Limitations:

- The study did not control for: age at menarche, breastfeeding, alcohol consumption, exercise, diet and BMI in nulliparous women (only BMI in parous women was considered).
- This is not a randomized controlled study. Prospective cohort studies, even of large numbers of patients, have numerous confounding factors and inherent scientific limitations. In cohort studies with RR <2 or 3, the observational findings should be viewed cautiously. (6)

References:

1. MÃArch, Lina S., et al. "Contemporary Hormonal Contraception and the Risk of Breast Cancer." *N Engl J Med* 2017;377:2228-39.
2. Collaborative Group on Epidemiological Studies of Ovarian Cancer. Ovarian cancer and oral contraceptives: collaborative reanalysis of data from 45 epidemiological studies including 23,257 women with ovarian cancer and 87,303 controls. *Lancet* 2008;371:303-14.
3. Collaborative Group on Epidemiological Studies on Endometrial Cancer. Endometrial cancer and oral contraceptives: an individual participant meta-analysis of 27 276 women with endometrial cancer from 36 epidemiological studies. *Lancet Oncol.* 2015 Sep;16(9):1061-1070.
4. Bassuk, Shari S., and Joann E. Manson. Oral Contraceptives and Menopausal Hormone Therapy: Relative and Attributable Risks of Cardiovascular Disease, Cancer, and Other Health Outcomes. *Ann Epidemiol.* 2015 March; 25(3): 193–200.
5. Noncontraceptive uses of hormonal contraceptives. ACOG Practice Bulletin No. 110. American College of Obstetricians and Gynecologists. Available at: [http://www.acog.org/publications/educational\\_bulletins/pb110.cfm](http://www.acog.org/publications/educational_bulletins/pb110.cfm).
6. Grimes, DA, and Schultz, Kenneth F. False Alarms and Pseudo-Epidemics -*The Limitations of Observational Epidemiology.* *Obstet Gynecol* 2012;120:920–7.