Current Contraceptive Controversies

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Clarissa's Case

Clarissa is a 17-year-old nulligravida woman who is seeking reliable contraception. She has tried many different combined oral contraceptive pills, but these exacerbated her migraine headaches, and she had difficulty remembering to take them. She is an otherwise healthy young woman and denies any dysmenorrhea or menorrhagia. She is interested in discussing injectable or intra-uterine contraception. After discussing her contraceptive options, she leaves the office with prescriptions for misoprostol and the copper IUD and an appointment for insertion in one week.

Staying up-to-date on contraceptive controversies in an ever-changing contraceptive landscape can be challenging for the busy clinician. Current hot topics in contraception include:

- The risk of venous thromboembolism (VTE) in different combined oral contraceptive pills (COCs)
- The risk of osteoporosis with injectable depot-medroxyprogesterone acetate (DMPA)
- The use of intra-uterine contraception (IUC) in the adolescent/nulliparous population
- The risk of cancer associated with contraception

VTE Risk with COCs

Venous thromboembolism, though rare, is a potentially life-threatening complication of combined hormonal contraception (CHC) use. VTE risk is highest in the first few months of CHC use. Although one may think that lowering the estrogen dose further will decrease the risk of VTE, prospective studies have shown no difference in risk of VTE among any of the low dose COCs (low dose = < 35 mcg of ethinyl estradiol).[1] The progestin type — in particular drospirenone, cyproterone acetate, and desogestrel — has also been suggested as having a potential risk for VTE. Although case-control studies have suggested certain progestins may be associated with an increased risk of VTE, large prospective cohort studies have found no difference in VTE rates by progestin type.[2,3] Hence, avoiding certain COCs on the basis of VTE risk does not appear to be warranted. One must keep in perspective the risk of VTE in non-COC users (5/10,000 women-years) versus COC users (8 to 9/10,000) versus pregnant (30/10,000) or post-partum (30 to 40/10,000) women.[4]

Osteoporosis Risk with Injectable DMPA

Several years ago, FDA and Health Canada advisories regarding loss of bone mineral density

(BMD) in DMPA users led many physicians to stop prescribing DMPA. In fact, DMPA is an effective and reliable method of contraception that may still be an excellent contraceptive option for certain women. Although DMPA is associated with a decrease in BMD (the rate of loss being greatest in the first two years of use), this loss appears to be completely reversible upon discontinuation; when DMPA is discontinued, BMD increases and returns to baseline within two to three years. It is unclear whether DMPA use during adolescence will reduce peak bone mass; however, no studies have documented an increased risk of osteoporotic fracture in DMPA users. The World Health Organization (WHO) and the SOGC state that there should be no restriction on DMPA use, including duration of use, in women age 18 to 45 who are otherwise eligible to use this method.[5] In other women, the benefits of DMPA use generally outweigh the theoretical risk of fracture. Healthcare providers should inform patients of the potential effects of DMPA on bone-mineral density and counsel them on bone health, including calcium and vitamin D supplements, smoking cessation, weight-bearing exercise, and decreased alcohol and caffeine consumption.

IUC Use in Adolescents

Many physicians are reluctant to consider intrauterine contraception (IUC) for adolescent or nulliparous women due to concerns about insertion difficulties, as well as pelvic inflammatory disease (PID) and resultant infertility. In fact, the risk of PID is extremely low and within three weeks of insertion the rate of PID in IUC users is similar to that of the general population.[6] Even in women with a documented sexually transmitted infection (STI) at the time of IUC insertion, the absolute risk of PID is still low (although slightly increased compared to those with no STIs at time of insertion). Large studies have shown no increased risk of tubal factor infertility in modern IUC users, and several studies have been published on IUC use in adolescents. The WHO states that age alone does not constitute a medical reason for denying any method to adolescents.[7] Potential complications of IUC insertion include expulsion (5% over 5 years) or uterine perforation (0.6 to 1.0 per 1000

Figure 1

Frequently Asked Questions

- ***Do I need to prescribe subacute bacterial endocarditis prophylaxis to a high-risk patient for a routine IUD insertion or removal?***
  No, this is not considered a risky procedure. However, if the IUD were to be removed because of suspected infection, antibiotics would be indicated.
- ***Must I remove the IUD from a patient who showed Actinomyces on her last Pap test? Do I need to treat her with antibiotics?***
  If your patient is asymptomatic, there is no need to remove or to treat. She should be warned about potential symptoms of PID.
- ***Can I avoid the increase in total cholesterol and triglycerides seen in COC users by prescribing the patch to avoid first-pass metabolism by the liver?***
  No, there is no evidence that the transdermal route results in a better lipid profile.
- ***How do I diagnose menopause in patients on a COC?***
  If during the hormone-free interval a woman experiences vasomotor symptoms and has two follicle stimulating hormone (FSH) results > 30, suspect menopause. Some women may not experience a rise in FSH until they have been off the pill for two weeks, so it is recommended to wait and test FSH levels after they have been hormone-free for two weeks.

insertions). Tips for making IUC insertion less difficult include the use of misoprostol (400 micrograms p.v. the night before insertion), dilating the cervix, and the use of local anesthetic. Options for IUC in Canada include copper IUD's and the levonorgestrel intrauterine system.

Contraception and Cancer

Many women are apprehensive about taking hormonal contraception because of cancer concerns. Studies have shown that COC use is associated with a decreased risk of ovarian cancer, endometrial cancer, and possibly colorectal cancer.[8] A 2006 meta-analysis found a small increased risk of pre-menopausal breast cancer in COC users (an additional 0.76 cases per 10,000 COC users). The risk was slightly higher for women who used COCs before their first full-term pregnancy compared to those who used COCs after their first full-term pregnancy (1.76/10,000 vs. 0.4/10,000). Genetics and lifestyle often have a much greater impact on breast cancer risk than taking COCs. Interestingly, the use of COCs in BRCA-positive women may not increase their risk for breast cancer above that related to genetic risk. Cervical cancer has also been associated with COC use (even after controlling for use of barrier-methods) and may progress more rapidly in COC users infected with oncogenic HPV types. The potential small increase in absolute risks must be kept in perspective because, for the majority of women, the benefits outweigh the risks. Dx

Take-home Messages

- Current evidence suggests that any difference in the absolute risk of VTE in COC users by progestin type is likely to be small and doesn't warrant preferential prescribing
- Consider the effects of DMPA on bone density when prescribing. Benefits of DMPA use may still outweigh the risks. Counsel DMPA users on bone health
- The IUD may be a contraceptive option for nulliparous and adolescent women, particularly if they are not able to adhere to other contraceptive methods
- The COC is associated with a decreased risk of ovarian and endometrial cancer. It may be associated with a small increased risk of cervical cancer and pre-menopausal breast cancer

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Recommended Reading:

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