



Contraception Update: The End of the Menstrual Period?

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Popular Contraception Methods

A variety of new delivery systems and regimens in hormonal contraception have been developed over the past decade to address the two most important issues in reversible hormonal contraception: poor compliance and abnormal bleeding. Despite the availability of these novel methods and schedules, Canadian women mainly use three methods: oral contraceptives, the condom and withdrawal. They remain unaware of the non contraceptive benefits of birth control pills including relief of dysmenorrhea, heavy bleeding and decrease in risk of ovarian and uterine cancers. Women also remain wary of hormonal methods because of a falsely elevated perception of the risk of venous thrombosis and other rare adverse events. Both Canadian woman and their family physicians, who provide the bulk of contraception care in this country, need to become aware of the new alternatives and their clinical profiles.

Oral Contraceptive Composition

All oral contraceptives available in Canada are considered "low dose" (The Society of Obstetricians and Gynaecologists of Canada (SOGC) Guidelines, 2007). Combined oral contraceptives

contain ethinyl estradiol in the dose range of 20 to 35 micrograms in combination with a progestin. A recent development has been the addition of a new progestin, drospirenone (Yaz and Yasmin, Bayer), which has a pharmacological profile most like that of natural progesterone, including a mild diuretic effect. Its clinical profile is similar to that of other low dose oral contraceptives. Yaz is a 24/4 formulation with a shortened hormone free interval of four days, which may have modest improvements in cycle control. Another development is an "extended cycle" regimen in which active pills are taken in an uninterrupted fashion for more than two cycles without a hormone free interval induced withdrawal bleed. This may be attractive to women who chose to avoid having a menstrual period for convenience, or who suffer from gynaecologic disease (e.g. endometriosis) where this would have a clinical benefit. The safety profile of extended cycle control appears to be the same as that of the conventional 21/7 cycle. The only product approved for use in Canada is Seasonale, which is a conventional combined oral contraceptive containing 30 mcg of ethinyl estradiol and 150 mg of levonorgestrel, though physicians have used many other monophasic pills in this manner for decades.



Efficacy of Oral Contraceptives

Transdermal Patch and Vaginal Ring

Despite the safety and theoretical efficacy of oral contraception, real world efficacy remains lower because of compliance issues. Numerous studies demonstrate that up to 40% of women will miss one or more pills in any given cycle, resulting in both unscheduled bleeding and unwanted pregnancy. The transdermal patch (Evra, Ortho-Janssen), and vaginal ring (Nuvaring, Merck) were developed to address this problem. The patch delivers 35 mcg ethinyl estradiol and norgestimate daily through the skin in a once weekly regimen and the ring delivers 15 mcg ethinyl estradiol and etonogestrel daily in a once monthly regimen. Both are extremely effective and associated with improved bleeding profiles, though there has been some concern about the dose of estrogen delivered to the systemic circulation with the patch. Pharmacokinetic data shows highest estrogen exposure with the patch, intermediate with oral contraceptives, and lowest with the ring. There have been both FDA and Health Protection Branch (HPB) warnings regarding increased thrombosis risk with the patch. The lowest rate of unscheduled bleeding and best cycle control is seen with the ring. Despite its favourable pharmacokinetic and clinical profile, acceptance of the ring remains low because of the novelty of vaginal administration.

Intrauterine Device

The intrauterine device continues to suffer from a poor image despite compelling data regarding its efficacy and safety. There remains the incorrect perception among clinicians and patients that these increase rates of pelvic inflammatory disease and infertility. The copper IUD (Nova-T, Bayer) is approved for 30 months of use and is

well tolerated and effective. Failure rates of about 1% and discontinuation rates of 10% to 15% at one year remain stable, mostly related to increased bleeding and pain. The addition of the IUS (Mirena, Bayer) has been a very significant development in the past 10 years. Mirena releases 20 mcg of levonorgestrel daily and is associated with highest efficacy rates of any reversible contraceptive method; 99.8% maintained during the five years of the device. Other non-contraceptive benefits include significant reductions in dysmenorrhea and bleeding, with amenorrhea rates of 20 to 40% at one to two years. Insertion is a simple office based procedure, effectiveness is comparable to a tubal ligation, and its favourable clinical profile is one explanation for dramatically reduced rates of laparoscopic tubal ligation in Canada over the past decade.

Conclusion

New developments continue in this exciting field to increase further the number of options available. These include the use of “natural” 17 beta estradiol as an alternative to the ethinylated form, new progestins, and new delivery systems including implant and injection. The challenge remains to increase awareness and reassure patients regarding the long term safety of these methods.

CME

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