Birth Control Options Multiply With New OCs, Improved Hormonal Contraception

BY DIANA MAHONEY
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BOSTON — The birth control landscape has transformed in recent years from a sparsely populated plain consisting of few effective choices to a more varied vista comprising a broader range of new and improved options, a researcher summarized.

In addition to new oral contraceptive formulations, several short- and long-acting hormonal contraceptive methods have emerged or been improved on, including the transdermal patch, the vaginal ring, and the progesterone intrauterine device (IUD), Dr. Carrie A. Cwiak said in a presentation at a conference on contraceptive technology sponsored by Contemporary Forums. "[These developments] have enabled women to better tailor their contraceptive choices to their lifestyles," she said.

For example, the new combined oral contraceptives with continuous or extended dosing might be more appealing than those with cyclic dosing because they are associated with shorter withdrawal bleeds (Loestrin 24 Fe, Yaz), fewer withdrawal bleeds (Seasonique, Seasonale), or no withdrawal bleeding at all (Lybrel), noted Dr. Cwiak, an assistant professor at Emory University in Atlanta.

One promising product on the horizon is the invisible condom, a microbicide that offers both a physical (gel) barrier and a chemical barrier within the gel.

"If you look specifically at the regimens, you can see that these are all low-dose oral contraceptives using the ethinyl estradiol in the same range that we've seen with previous contraceptives and, with the exception of the pill that contains drospirenone [Yaz], we're talking about the same types of progestins in the same range of doses."

Citing a 2006 Cochrane review comparing combined oral contraceptives based on continuous vs. cyclic dosing, Dr. Cwiak pointed out that the continuous regimens "showed either no difference or less bleeding and spotting, improvement in menstrual-associated symptoms, and no difference in patient compliance or adverse events" (Hum. Reprod. 2006;21:573-8).

The newest progestin, drospirenone, differs from other oral contraceptive progestins on the U.S. market because it is not derived from testosterone. Rather, it is an analogue of the aldosterone antagonist spironolactone and exhibits mild antimineralocorticoid properties, similar to natural progesterone, said Dr. Cwiak. "It has minimal diuretic and no androgenic effects and it has been associated with decreases [relative to placebo] in symptoms of premenstrual syndrome and premenstrual dysphoric disorder, which may appeal to patients who are still experiencing these symptoms on other regimens."

Patches and Rings

The transdermal patch (Ortho Evra) is another effective contraceptive option that is especially appealing to women who don't want to remember to take a pill every day, said Dr. Cwiak. "The new information we have about the patch is related to the increased estrogen exposure. Specifically, patients are exposed to 60% more estrogen through the patch, compared with oral contraceptives, but we don't have any information on if or how that corresponds to clinical events," she said.

Although the FDA recently approved changes to the Ortho Evra label to include the results of a new epidemiology study linking the patch to a twofold increase in the relative risk of developing venous thromboembolism, "that corresponds to maybe 20 out of 100,000 more clots in patch users vs. pill users, so we are still looking at minimal numbers and a risk of VTE less than that associated with pregnancy," Dr. Cwiak said.

Because the patch is less effective in women who weigh more than 198 pounds, "it's important to counsel these women to use a backup method," Dr. Cwiak cautioned. For such patients, she noted that "the vaginal ring might be a reasonable alternative because its efficacy does not appear to be affected by weight."

Another benefit to the vaginal ring is that it is active for 35 days. "Previously, patients were told to remove it after 3 weeks, but recent data have shown that it's safe for continuous use," Dr. Cwiak said. "It's much easier to change the ring on the same day of the month every month and not worry about those extra days."

For patients who prefer quarterly injections over pills, patches, and rings, Depo Provera is now delivered by subcutaneous injection at a slightly lower dose than the earlier intramuscular injection (104 vs. 150 mg), said Dr. Cwiak. The lower dose has not affected the efficacy of the contraceptive, but neither has it affected the side-effect profile. "Some of us were thinking that the lower dose would correspond to lower side effects; unfortunately, the data show similar weight gain and similar bleeding patterns," Dr. Cwiak noted. "The good news is that, as with the earlier formulation, bone mineral density changes return to normal upon discontinuation, even in adolescents."

IUDs and Implantable Devices

With respect to long-term reversible contraceptives, IUDs and implantable progestin devices are among the most effective. The two IUDs currently approved by the FDA are the copper T 380A IUD (ParaGard) and the levonorgestrel intrauterine system (Mirena).

Although IUD use in the United States lags behind that in other developed countries, recent changes to medical eligibility criteria might lead to increased utilization, Dr. Cwiak stated. "The use of IUDs in women younger than 20 is now considered safe. Also, removal of the IUD is not required in patients with actinomyces, bacterial vaginosis, *Trichomonas,* or cervicitis," she said. "If pelvic inflammatory disease occurs in an IUD user, treatment is the same as in nonusers and removal is not necessary."

In addition, the new package insert for ParaGard states that eligible candidates now include nulliparous and nulligravid women, women not in a mutually monogamous relationship, women with a history of sexually transmitted infection or pelvic inflammatory disease who do not have current risks, and women with history of ectopic pregnancy—all previously considered contraindications.

"The important thing to remember here is that we don't want to have an active infection at the time of insertion because of its placement through the cervix into the uterus," said Dr. Cwiak. "We don't want to make an existing infection worse."

The Mirena levonorgestrel intrauterine system, which releases levonorgestrel to the endometrium over 5 years, has been associated with improvement in menorrhagia and decreased uterine size and bleeding with fibroids, "which is probably why we're seeing it being used more and more," Dr. Cwiak noted. "Also, [insertion of the device] is an easy in-office procedure that takes only a few minutes."

The only implantable contraceptive currently approved for use in the United States is Implanon, a progestin-only single rod implant that delivers 40 mcg of etonogestrel per day and is effective for 3 years. With only one rod to implant, the subdermal insertion and removal of this contraceptive is markedly easier than that of its six-capsule predecessor, Norplant.

On the Horizon

In terms of future contraceptive developments, there are a number of short-term and long-term prospects, said Dr. Cwiak. One is the Nestorone/ethynyl estradiol vaginal ring for cyclic monthly use, which is not yet on the market in the United States. "The ring delivers 150 mcg of Nestorone and 15 mcg ethinyl estradiol and has an extremely high rate of ovulation inhibition and low rates of breakthrough bleeding," she said.

Another promising product on the horizon is the invisible condom, a microbicide that offers both a physical barrier, in the form of a gel that blocks the entry of pathogens into the mucosa, and a chemical barrier—sodium lauryl sulfate—within the gel that kills sexually transmitted pathogens including HIV, Dr. Cwiak said.

According to the findings of a recent phase I trial, the gel, which is applied with a special applicator that delivers the product uniformly throughout the vagina and cervix, does not disrupt vaginal epithelium or pH, and it is well tolerated. The product is currently being investigated in a phase I/II placebo-controlled trial (Contraception 2007;76:117-25). ■

Thrombosis in OC Recipients Favors the Left

BY MIRIAM E. TUCKER
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WASHINGTON — When women develop deep vein thrombosis while on oral contraceptives, the lower left side of the body is more likely to be affected than are the upper extremities or the lower right side, according to the results of a single-center, retrospective chart review.

The findings also suggest that a narrow left common iliac vein may predispose to thromboses in this location, and that this anatomical risk factor could be addressed with endovascular stenting, according to Dr. Grace A. Tye, who reported the results of the review at the annual meeting of the Society of Interventional Radiology.

Oral contraceptives are a well-described risk factor for lower extremity venous thromboembolic events, but there are few published studies on the anatomical distribution of these events in women taking OCs, Dr. Tye said.

Among 52 women who were younger than age 45 and were diagnosed with DVT at Stanford (Calif.) University Hospital in 2002-2006, 19 were on OCs at the time of their diagnosis, reported Dr. Tye, a radiology resident at Stanford. All 19 women on OCs had lower extremity DVTs; of these, 16 were in the left lower extremity and 3 were in the right lower extremity, a statistically significant difference.

Cross-sectional imaging was available for 11 of the 19 patients, and the findings indicated a left common iliac diameter (at the point of maximal narrowing) of 3.7 mm, compared with a right common iliac diameter of 13.1 mm, a highly significant difference.

Dr. Tye proposed that the lower left side predominance of the DVTs might be related to the "May-Thurner Syndrome," which also is called iliac vein compression syndrome. Named after the two physicians who first described it more than 50 years ago (Angiology 1957;8:419-27), the syndrome describes the small diameter of the left common iliac vein as typically resulting from compression by the right common iliac artery.

The lower left side predominance of the DVTs suggests that women who develop DVT while on oral contraceptives might benefit from early endovascular stenting to relieve compression of the left common iliac vein, according to Dr. Tye, who said that conventional anticoagulation therapy may not address the risk for recurrent DVTs and postthrombotic syndrome in these women. They may benefit from endovascular stenting of the left common iliac vein to relieve compression at this location, which may subsequently result in a lower risk for recurrent DVTs and postthrombotic syndrome, she concluded. ■