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Evidence-based commentaries on women's reproductive health

ABSTRACT & COMMENTARY

Weight Gain with Contraception

By Rebecca H. Allen, MD, MPH

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Dr. Allen reports she is a consultant for Activis and Bayer and receives grant/research support from Bayer.

SYNOPSIS: In this prospective cohort study, perceived weight gain was found to be an adequate predictor of actual weight gain. Depot medroxyprogesterone acetate and the contraceptive implant were associated with more weight gain than the copper IUD.

SOURCE: Nault AM, et al. Validity of perceived weight gain in women using long-acting reversible contraception and depot medroxyprogesterone acetate. *Am J Obstet Gynecol* 2013;208:48.e1-8.

The authors performed a two-part analysis of the Contraceptive CHOICE Project, a prospective cohort study in which women in the St. Louis, Missouri, region received a reversible contraceptive method of their choice for up to 3 years at no cost. First, body mass index was calculated at enrollment and women were asked at 3-, 6-, and 12-month telephone interviews whether their weight had changed by 5 pounds or more. This perceived weight change was categorized as weight gain, no change, or weight loss. Second, a smaller cohort of women from the main study then were asked to return at 12 months for an objective weight measurement. They had to have been using the levonorgestrel IUS (LNGIUS), copper T380A IUD (Cu-IUD), contraceptive implant, or depot medroxyprogesterone acetate (DMPA) for at least the prior 11 months. Participants were classified as having had weight gain if the calculated weight change was ≥ 5 pounds, no change if the calculated weight was < 5-pound difference in either direction, or weight loss if the calculated weight change was ≤ 5 pounds or less.

A total of 4133 women met inclusion criteria for the first part of the study, and 281 of those had an objective weight measurement at 12 months. Women who perceived weight gain were more likely to be African American, parous, uninsured, and less educated. Forty-six percent of DMPA users, 41% of implant users, 34% of LNGIUS users, 29% of copper IUD users, and 26% of pill/path/ring users reported a perceived weight

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gain. The mean weight change for the 281 women with objective measurements was a 2.2 pound increase. Women who perceived weight gain experienced a mean of 10.3 pounds gained. Women who perceived no change to their weight experienced a mean of 1.5 pounds gained. Women who perceived weight loss experienced a mean of 9.5 pounds lost. The sensitivity and specificity of perceived weight gain was 74.6% and 84.4%, respectively, and the positive predictive value was 77%. Having established that perceived weight gain was reasonably predictive of actual weight gain, the authors then used the larger cohort to perform a multivariable analysis. After adjusting for race, the implant (relative risk [RR] 1.29; 95% confidence interval [CI], 1.10-1.51) and DMPA (RR 1.37; 95% CI, 1.14-1.64) users were significantly more likely to perceive weight gain compared with copper IUD users.

■ COMMENTARY

Long-acting reversible contraception (LARC), due to its high efficacy and continuation rates, is considered to be in the top tier of contraceptive efficacy. We should encourage more women who need long-term contraception to choose IUDs and implants. The Contraceptive CHOICE Project investigators have previously reported continuation rates at 12 months of 88% for the LNGIUS, 84% for the Cu-IUD, and 83% for the subdermal implant.[1] Satisfaction rates were also higher for LARC methods compared to other methods of contraception such as oral contraceptives and DMPA. One component of contraceptive continuation and satisfaction is weight gain, whether actual or perceived. Clinically, we see many women requesting to change contraceptive methods because of perceived weight gain, although whether the weight gain is due to the method or changes in diet and activity is often not known. This is an important conversation to have with your patient. This study assigns an overall average 2.2 pound potential weight gain across all methods. Although most women are adverse to *any* weight gain, the benefit of LARC and security against pregnancy may be worth the gamble, especially since pregnancy is associated with weight gain that often persists into the postpartum. Therefore, switching women from a highly effective contraceptive will likely increase their risk of pregnancy at the cost of a few pounds. The choice is highly personal and worth the discussion.

This particular study examined the validity of perceived weight gain among women using LARC methods and DMPA against actual weight gain — a highly practical outcome for our population. It has long been known that DMPA use can be associated with weight gain, especially in women who are already obese.[2,3] In the trials for the contraceptive implant, however, mean weight gain in U.S. users was 2.8 pounds in the first year and 3.7 pounds after 2 years. Additionally, only 2.3% of the study population requested that the implant be removed due to weight gain.[4] Interestingly, the authors found that more women using both implants and DMPA, compared to IUDs and the pill/patch/ring, reported perceived weight gain. Perceived weight gain with the contraceptive implant has not been previously described. Although perceived weight gain was not a perfect measure of actual objective weight gain, it was a reasonable approximation associated with decent sensitivity, specificity, and predictive value. Nevertheless, the authors did not report the actual weight gain with each method among the 281 women, which would have been helpful information. In addition, there is no information on diet and exercise habits in the participants.

The investigators propose that providers caring for women using these contraceptives should ask them about weight gain, and that perceived weight gain can be just as concerning to women as actual weight gain. They suggest interventions, such as weight loss counseling and screening for diseases associated with obesity, including hypertension or diabetes. They do not mention any strategies for changing the contraceptive method or at what weight gain threshold it should be changed. Because of the known association, women on DMPA are likely already monitored closely for weight gain. In our clinic, all patients on DMPA have their weight and blood pressure checked at each injection visit. Implant users typically present only for their annual gynecologic exams after implant insertion, unless side effects are bothersome. Changes in weight are already addressed as part of an annual exam evaluation, but this study may make us pay more attention in contraceptive implant users. ■

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ABSTRACT & COMMENTARY

Intercourse at the Time of Implantation Confers Lower Chance of Conception

By Michael A. Thomas, MD

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Dr. Thomas reports he receives grant/research support from National Institutes of Health, Agile, and Therapeutics MD.

SYNOPSIS: Couples attempting natural conception were found to have a lower chance of success per cycle when intercourse took place at or around the time of implantation.

SOURCE: Steiner AZ, et al. Peri-implantation intercourse lowers fecundability. *Fertil Steril* 2014;102:178-182.

This is a secondary analysis of data obtained from two prospective time-to-pregnancy studies that were originally designed to determine the validity of antimullerian hormone (AMH) and follicle-stimulating hormone (FSH) as biomarkers of fertility in a community-based group of reproductive-aged women.[1,2] Subjects were admitted to the original cohort if they were eumenorrheic and had been trying to conceive for ≤ 3 months or were about to make initial attempts at pregnancy. Participants also were instructed to use a daily study diary in which they documented acts of intercourse (IC), vaginal bleeding, medication use, and pregnancy test results. In the present study, 564 women, aged 30-44 years who were thought to be fertile, underwent analysis of a total of 1332 complete menstrual cycles. The investigators used the diary information to specifically observe IC frequency during the fertile window (5 days prior to and the day after ovulation) and continued through the time of implantation and for 2 or more days thereafter (5-9 days after ovulation). Subjects were grouped into the three categories related to the number of times that IC was recorded in their diaries during the pre-implantation time frame (0-9 days after ovulation) each cycle: 1) none, 2) one, and 3) two or more. The time of ovulation in all subjects was assumed to have occurred 14 days before the first day of the next menses. Data analysis was undertaken after adjusting for age, body mass index, menstrual cycle history, race, and previous pregnancy. Compared to women who did not have IC at and after the time of implantation, women who had IC during this period had a fecundability (chance of pregnancy per cycle) ratio of 0.65 (95% confidence interval, 0.42-0.91), indicating a decreased chance of conceiving. In addition, as IC frequency increased during this peri-implantation window, the probability of pregnancy decreased.

■ COMMENTARY

Previous investigators have noted that the best time to conceive, or the "fertile window," is the time frame starting 5 days before and the day after ovulation in women undergoing attempts at conception.[3] IC after this time will not result in a pregnancy. After ovulation, the oocyte is picked up by the fimbria, which are constantly sweeping over the ovary. If sperm is present once the oocyte makes its way to the ampullary portion of the tube, the oocyte has the chance of becoming fertilized, but this opportunity can only take place within 12 hours after this female gamete reaches the reproductive tract. If fertilized, the embryo has to traverse its way to the tubal ostia and now as a blastocyst implant into the endometrium by a series of steps that include endometrial receptivity and blastocyst invasion. Any disruption in this process will lead to a failure in implantation.

The goal of this study was to determine if IC in and around the time of implantation could impede endometrial receptivity, therefore decreasing the chance of pregnancy. It has been demonstrated that IC, with or without orgasm, can cause uterine contractions.[4] However, it is unclear whether these contractions are able to either disrupt implantation, displace an implanted embryo, or possibly expel the embryo from the uterine cavity. In addition, we know that seminal fluid contains substances, including prostaglandins and growth factors (IL8, CXCL12, CCL2, soluble HLA-G, TGF-beta) capable of eliciting a strong maternal immune response. Intrauterine exposure can induce a proinflammatory reaction lasting up to 48 hours, which could also interfere with an embryo's ability to stay in place.[5] Because of these theoretical possibilities, this group of investigators decided to look at the effect of peri-implantation intercourse on conception.

Other research groups have been concerned about the role that stimulating uterine contractions can have on adversely affecting implantation. Uterine contractions have also been evaluated at the time of embryo transfer (ET) during an in vitro fertilization (IVF) cycle and were associated with poor implantation rates.[6] Also, when atosiban, an oxytocin and vasopressin inhibitor, was given to inhibit contractility at the time of ET, implantation rates improved.[7] Because of this, patients undergoing a fresh or frozen IVF cycle are routinely told to curtail vaginal IC until their first pregnancy test 2 weeks after ET. Avoidance of IC during this time period has been dogma at my institution since 1988. However, whether other methods of sexual expression (manual masturbation, oral stimulation, use of vibrators) that lead to orgasm and uterine contractions could produce a similar effect is less clear, and I know of no IVF centers that proscribe these activities.

Although this study demonstrated a reduction in the rate of pregnancy in couples engaging in vaginal IC around the time of implantation, the investigators noted limitations that may have impacted these results, such as the fact that subjects were predominately Caucasian (70-83%), diaries did not detail orgasm or barrier method use, and the periovulatory period was retrospectively assessed by menstrual cycle onset rather than by ovulation predictor kits, progesterone levels (to define an ovulatory cycle), or serial luteal phase hCG levels.

The results of this study confirm that IC at the time of the "fertile window" offers that best chance of conceiving. However, couples who are having trouble getting pregnant may need to better pinpoint the time of ovulation (using ovulation predictor kits or cervical mucus changes) and then avoid any form of female genital stimulation for a week or potentially negatively impact the chances of conception. As a fertility specialist, I routinely discuss every potential cause of a couple's inability to achieve parenthood at the time of their first visit. Whether "abstinence in order to conceive" will be part of any future discussions will depend on larger multicenter studies that replicate these counterintuitive findings. ■

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ABSTRACT & COMMENTARY

Delayed Cord Clamping

By John C. Hobbins, MD

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Dr. Hobbins reports no financial relationships relevant to this field of study.

SYNOPSIS: Although a recent study has failed to show major benefit from delayed umbilical cord clamping, others have suggested neonates having delayed cord clamping have less need for transfusion, higher hematocrits, less neonatal morbidity, and diminished risk of intraventricular hemorrhage.

SOURCE: Elimian A, et al. Immediate compared with delayed cord clamping in the preterm neonate. *Obstet Gynecol* 2014;124:1075-1079.

The question of whether to clamp the umbilical cord immediately or to wait for a boost of blood from the placental/cord reservoir has been debated, seemingly, forever, and recommendations by various medical organizations have been inconsistent. Many studies have emerged that address the issue, but the authors' concluding statements often end in a call for more investigation, especially in preterm pregnancies. Elimian et al have answered the call with another recently published randomized controlled trial (RCT).[1]

The study focused on the need for neonatal transfusion in preterm neonates. Two hundred patients delivering between 24 and 32 weeks were randomized. In 99 patients, the umbilical cords were clamped 30 seconds following delivery and in 101 patients clamping occurred immediately after delivery. Although the decision for transfusion was based on the general clinical picture, it was mostly employed in those neonates whose hematocrits were < 30%.

There were no significant differences between groups, with 25 of the "delayed cord clamping" (DCC) group (25.3%) and 24 of the "early" group (ECC) needing transfusions (23.7%; $P = 0.8$). The mean gestational ages in the groups were the same (30.7 weeks vs 30.8 weeks), and there were no significant differences in respiratory distress syndrome, necrotizing enterocolitis, or periventricular leukomalacia. However, the hematocrits were significantly higher in the DCC group (51% vs 47%), and there was a nonsignificant trend in a lower rate of intraventricular hemorrhage (IVH) compared with

the ECC group (11.1% vs 19.8%).

■ COMMENTARY

Table 1 lists the often-postulated pros and cons of delayed clamping. Regarding the incidence of postpartum hemorrhage, a Cochrane database review has shown no difference between ECC and DCC.[2] Studies in term babies, including the above Cochrane review, have shown a 50% decrease in neonatal anemia with a significant decrease in the need for transfusion.[2] In addition, there has been a significant increase in ferritin stores noted at 6 months of age.[3] On the downside, with DCC there is an increased rate of asymptomatic polycythemia and hyperbilirubinemia, resulting in a slightly heightened need for phototherapy.[2]

The featured study's negative transfusion results are out of sync with most other studies, which, in addition to showing the beneficial findings noted above, have noted better circulatory stability,[4] improved general neonatal outcomes,[5] and, in particular, a 50% decrease in IVH with DCC.[6]

Medical organizations have varied somewhat in their recommendations. The World Health Organization (WHO) has advocated for DCC in all pregnancies,[7] based on less need for transfusions and an increase in iron stores at 6 months of age — features particularly important in locations with limited resources. The American College of Obstetrics and Gynecology (ACOG)[8] has waffled on DCC in term pregnancies ("insufficient evidence"), but has supported its use in preterm pregnancies, mostly because of decreased IVH. Regarding cord blood banking, the ACOG document states that "the desire to collect blood should not interfere with, or determine the timing of, cord clamping." The American Academy of Pediatrics has simply endorsed the ACOG stance.

Other ways to potentially provide a blood volume/red cell/stem cell bonus to the infant:

1. Using gravity to enhance transfer of blood — An earlier study suggested better transfer of blood during DCC when the baby is positioned at the level of the placenta, rather than on the mother's abdomen (based on the average placental weights in each group after DCC).[9] This is undoubtedly why the WHO recommended this step. In contrast, a very recent study, using infant weights as surrogate indicators of delta blood volumes, found no difference between the two methods of infant positioning during DCC.[10] The obvious benefit of the second method is the skin-to-skin contact with the mother.
2. Cord "milking" for vaginal deliveries (as an alternative to DCC) — A very recent study from one institution showed a substantial increase in hematocrit, a decreased need for transfusion, and improved composite neonatal outcome when a milking regimen for all vaginal deliveries was initiated (compared with a historical control group).[11]
3. Milking/stripping for cesarean sections — An RCT showed improvement in neonatal outcome when the umbilical cords were stripped during cesareans.[12]
4. Waiting until the cord stops pulsating — While representing the ultimate in non-intervention, little data are available comparing this practice with other options.

Table 1: Pros and Cons of Delayed Clamping

Pros
• The addition of 50-160 mL of placental blood (with added RBCs) represents as high as a 30% increase in blood volume — a bonus especially for preterm neonates, who generally run at least a one in four chance of needing transfusion(s). • There would be an additional boost of up to 50/mg/kg of iron. • The placenta contains 30% of the stem cells in the fetal circulation, which would be left behind with ECC. These could be invaluable in any infant's ability to fight infection. • Some studies have shown a significant decrease in intraventricular hemorrhage with DCC.
Cons
• The delay may increase the risk of postpartum hemorrhage. • The delay may prevent infants from getting immediate stabilizing care and predispose them to hypothermia and hypoxia. • The added boost in red cells could cause neonatal polycythemia, jaundice, and an increased need for phototherapy. • The regimen could interfere with parents' desires for the collection of cord blood for later stem cell purposes. • It would simply lengthen the time needed to complete the entire delivery process, a factor that particularly comes into play during cesarean section.

It appears that ECC is the most common practice today. Why? Here is one answer from a review by Mercer et al.[13] "In the last century as technology advanced, respect for the process of birth has been lost in exchange for efficiency and expedience." On one hand, we demand that new techniques pass "evidence-based" scrutiny, but we are slow to abandon practices that have sneaked in through the side door simply because they are more convenient. So, in view of the somewhat conflicting results in the literature, what is a clinician to do? A reasonable stance would be to go with the most "natural" approach (DCC) because:

1. The majority of single studies and meta-analyses

have shown neonatal benefit of DCC in almost every category.
2. There is a major theoretical advantage to a bolus of stem cells from placental/cord blood.
3. There is no evidence of any real harm to mother or infant. ■

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SPECIAL FEATURE

Endometrial Protection: Which Progestogen Is Best?

By Jeffrey T. Jensen, MD, MPH, Editor

SYNOPSIS: After a lost decade, increasing numbers of women and providers are recognizing the benefits of postmenopausal hormonal therapy. For women with an intact uterus, endometrial protection is required when systemic estrogen therapy is used. Since activity at the glucocorticoid and androgen receptor may lead to adverse health effects in some women, use of pure progesterone receptor agonists may offer advantages. However, the use of natural progesterone is problematic due to low potency and poor bioavailability with oral dosing. Local therapy with the levonorgestrel intrauterine device (off-label) may be an excellent choice for many women.

We are seeing a slow movement back to postmenopausal hormone replacement therapy (HRT) after the dark years following publication of the original Womens' Health Initiative (WHI) reports in 2002. The 2014 revision of the American Congress of Obstetricians and Gynecologists Practice Bulletin for management of menopausal symptoms provides a balanced discussion of benefits and risks of HRT that places the WHI findings in perspective with other literature.[1] As in the past, the discussion is often initiated by women in response to symptoms of hot flushing and vaginal dryness. While hot flushing goes away in most women, and vaginal dryness can be treated with topical estrogens and lubricants, many women are interested in systemic therapy. Although the pharmaceutical industry continues to chiefly explore and promote costly new non-estrogen options for systemic therapy (e.g., ospemifene, basodoxiphene), I remain convinced that good old-fashioned estradiol is the best approach, as long as the oral route of administration is avoided. The primary risk of estrogen is an increased risk of thrombosis,[2] and bypassing the liver with transdermal or vaginal administration of estrogen avoids this first pass metabolism and mitigates the risk.[3]

Unfortunately, unopposed estrogen administration will result in endometrial hyperplasia and cancer in some women. It has long been known that co-treatment with a progestogen prevents this. Progestogens mediate their effect by modulating gene transcription through binding not only to the progesterone receptor (PR), but also with varying affinities to the glucocorticoid (GR), mineralocorticoid (MR), and androgen (AR) receptors. Side effects are thought to be related to binding of a progestogen to GR, AR, and MR. A variety of factors (e.g., route of delivery, metabolism, serum protein binding) will also affect the bioavailability of the active form of a progestogen at target cells.[4] An ideal progestogen would have pure PR activity with great bioavailability and high potency, but no AR, GR, or MR activity. However, some progestogens have tissue-specific effects or are antagonists of other steroid receptors, complicating the picture further.

Progestogens can be divided into two types: natural (progesterone) and synthetic (everything else). Synthetic progestogens are classified according to the steroid hormone scaffold (progesterone or testosterone) on which the molecule is based. Drospirenone is unique in that it is structurally related to spironolactone.[5] A wide variety of compounds that differ in their relative oral bioavailability and binding to the PR, AR, GR, and MR have been synthesized and used in HRT.

The most widely used agent in HRT has been medroxyprogesterone acetate (MPA). The primary advantage of MPA is its high bioavailability with oral administration (> 90%), potency, and a 24-hour half-life compatible with once-daily dosing.[5] Evidence suggesting that MPA may attenuate the favorable effects of oral

Table 1: Classification of Progestogens

Classification	Progestogen
Natural	Progesterone
Synthetic	
Structurally related to progesterone	
Pregnane derivatives	
Acetylated	MPA, megestrol acetate, chlormadinone acetate, cyproterone acetate
Nonacetylated	Dydrogesterone, medrogestone
19-Norpregnane derivatives	
Acetylated	Nomegestrol acetate, nestorone
Nonacetylated	Demegestone, promegestone, trimegestone
Structurally related to testosterone	
Ethinylated	
Estranes	Norethindrone, norethindrone acetate, ethynodiol diacetate, norethynodrel, lynestrenol, tibolone
Gonanes	Levonorgestrel, desogestrel, norgestimate, gestodene
Nonethinylated	Dienogest
Structurally related to spironolactone	Drospirenone

Adapted from: Sanzek FZ, et al. Progestogens used in postmenopausal hormone therapy: Differences in their pharmacological properties, intracellular actions, and clinical effects. *Endocr Rev* 2013;34:171-208.

estrogens on lipids first emerged in the 1995 PEPI study,[6] and was later supported by the increase in cardiovascular disease and invasive breast cancer observed in the WHI among women using combined HRT (conjugated equine estrogens [CEE] + MPA) but not in women using CEE alone.[7] Some of the unfavorable properties of MPA are thought to be associated with binding to the GR, where it displays significantly higher binding affinity than cortisol.[5] The unfavorable effect of MPA on breast cancer may also be mediated through the GR.[5] Unfavorable effects on lipids and on blood flow have also been reported with MPA.

In contrast, natural progesterone has poor oral bioavailability of < 5% and a half-life of about 16 hours.[5] Consequently, a much higher dose (200 mg micronized progesterone) is recommended for endometrial protection. Some women will be fine with a dose of 100 mg/day, while others will need to use 200 mg or divide that dose into twice daily. The fact that there is no FDA-approved topical progesterone product reflects the fact that bioavailability varies greatly. Serum levels of progesterone did not exceed 3.5 mg/mL when creams delivering up to 80 mg per day were used by postmenopausal women; levels > 5 ng/mL are considered protective for the endometrium.[8] Progesterone gels result in higher serum levels that might be protective. If your patients are using a progesterone gel or cream prescribed by a naturopath, recognize that these are formulated by compounding pharmacists and may not be uniform. Doses of at least 100 mg/day would be recommended. It would be wise to obtain a serum progesterone level to guide therapy, and an endometrial stripe measurement by transvaginal ultrasound should be strongly considered.

The commercially available 4% vaginal progesterone gel (Crinone®) has been evaluated for endometrial protection in combination with transdermal estradiol. This product delivers 45 mg/day, and no cases of endometrial proliferation were observed in a small study involving 35 subjects. However, this is not approved for HRT and is quite expensive.

Combination transdermal systems releasing levonorgestrel (Climara Pro™) and norethindrone acetate (CombiPatch™) are also available. Clinical trials support endometrial protection with both products. As with oral therapy, breakthrough bleeding can occur with these products. This can scare patients and lead many providers to perform unnecessary endometrial biopsies. Since neither norethindrone nor levonorgestrel binds to the GR, no effect on the breast would be expected.[5] Many women appreciate the convenience of using a single product for HRT rather than combining a patch or gel for estrogen replacement therapy (ERT) with a different route of administration for the progestogen.

Since reducing systemic AR, MR, and GR exposure from progestogen therapy might be an important goal of therapy, intrauterine administration may provide several benefits. The 5-year, 20 mcg/day release rate levonorgestrel intrauterine system (LNGIUS 52,

Mirena™) is approved for contraception and treatment of heavy menstrual bleeding. In a pooled analysis, the LNGIUS 52 was highly effective at providing endometrial protection during ERT; proliferative endometrium was not observed at 2-5 years of use, whereas 11.1% of samples in a comparator group using oral LNG 75 mg were proliferative at 2 years.[9] Additional studies with transdermal and vaginal estrogen have confirmed these early results. Among postmenopausal women randomized to estradiol gel (1.5 mg/day) combined with either the LNGIUS 52 or progesterone (100 mg on days 1-25) administered orally or vaginally (n = 15), all LNGIUS users had inactive or atrophic endometrium, compared to only 21% and 33% of women in the oral and vaginal groups, respectively.[9] Similar to premenopausal women using the LNGIUS for contraception, breakthrough bleeding and spotting is most common during the first 3 months of use and then decreases, with 80-96% experiencing amenorrhea after 12 months.[9] Endometrial protection has also been reported with the use of an experimental LNGIUS releasing 10 mcg/day. Although the recently introduced 12 mcg/day small frame LNGIUS 13.5 (Skyla™) has not been studied for endometrial protection, it would be expected to have a similar effect. Furthermore, the smaller frame and insertion tube diameter of this device may make it especially well-suited for placement in postmenopausal women. The great advantage of the LNGIUS is the local delivery of LNG. Systemic circulating levels of drug are lower than with oral, vaginal, or transdermal delivery, so metabolic impact and adverse effects should be reduced if these are exposure-related.

A major barrier to the use of the LNGIUS for endometrial protection is the lack of FDA approval for this indication. For many women, the cost of the device and placement is not affordable without insurance coverage. Other women will look at the convenience and cost-effectiveness and consider this off-label use a justifiable investment, so I always present the option in counseling. The easiest women to start on this approach are recently menopausal women with a current LNGIUS that was placed for contraception. ■

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CME QUESTIONS

1. **In the study by Nault et al, the positive predictive value of perceived weight gain with contraception was:**
   a. about 25%.
   b. about 50%.
   c. about 75%.
   d. 99%.
2. **In the ovulatory patient, the "fertile window" occurs:**
   a. only the day of ovulation.
   b. 3 days after menses.
   c. at the time of peak progesterone production by the corpus luteum.
   d. 5 days before ovulation to the day after ovulation.
3. **Which of the following represents a documented downside effect of DCC?**
   a. More neonatal hypothermia
   b. A cardiovascular overload to infants
   c. More chance of maternal postpartum hemorrhage
   d. A higher rate of asymptomatic polycythemia
4. **All studies have shown the benefit of using gravity to enhance the transfusion of blood from the placental circulation prior to cord clamping.**
   a. True
   b. False

[IN FUTURE ISSUES]

Update on Postoperative Delirium in Older Adults: Best Practice Statement from the American Geriatrics Society