New Contraceptive Methods
P Dull

Citation

Abstract
While hormonal contraceptives have been around for years, during this year two new methods were released. Effectiveness and side effects for the most part were similar to oral contraceptive pills. There were slight skin concerns with the patch and minor vaginal complaints with the ring. Practitioners need to be aware of these new methods in order to counsel patients.

**TRANSDERMAL ESTROGEN/PROGESTIN DRUG SYSTEM**
Late last year the FDA approved two new exciting contraceptive choices that became available this year in the US. The first widely available method was the Ortho Evra patch. It is a transdermal estrogen/progestin drug system delivering 20ug ethinyl estradiol and 50ug norelgestronmin. Penetration of the drugs is enhanced with lauryl lactate. It is applied to the lower abdomen, buttocks, or upper body every week for 3 weeks. The fourth week is patch-free to allow menses. The patch cannot be applied to the breast. Risks and effectiveness are similar to oral combination contraceptive pills. It can be started on the first day of the cycle or Sunday start just like the pill.\(^1\)\(^2\) Smoking increases the cardiovascular side effects similarly and is not advised.\(^1\)

Pooled data comparing the patch with oral contraceptive for 13 treatment cycles at 3 different centers showed only a higher incidence of site reactions, breast discomfort, and dysmenorrhea in the patch groups. These symptoms were mild to moderate in severity and less than 2% of these patients discontinued the patch due to effects.\(^1\) There was a slight decreased effectiveness in women weighing over 198 pounds. \(^1\)\(^2\) Studies showed a 2% stoppage rate due to skin irritation. \(^1\) Multiple pooled studies showed good skin adherence even in the hot and humid conditions. Only one of 87 patches completely fell off during exercise. Of 70,552 patches used, only 1.8% were replaced because they fell off.\(^1\) If a patch is off for less than 24 hours, it may be reapplied or replaced with a new one without contraceptive concerns. If more than 24 hours is lost, then a backup method must be used for one week.\(^1\)

Breakthrough bleeding was low and decreased with time, similarly to an oral contraceptive.\(^2\) Cost for 3 patches (1 cycle) was $33.39 at a national website. This was similar to brand name oral contraceptives ($30-33).\(^1\) As with all hormonal contraceptives, there is no protection from sexually transmitted diseases (STDs).

**VAGINAL RING**
The other novel hormonal contraceptive is the vaginal ring, NuvaRing. It is a flexible polymer 2.1” ring that is colorless and transparent. It releases 0.120 mg etonogestrel (a progestin, the bioactive metabolite of desogestrel) and 0.015 mg ethinyl estradiol daily. The patient inserts the ring in the vagina on day 5 of her cycle and leaves it in place for 3 weeks. Specific positioning of the ring is not necessary as long as the ring has contact with the vaginal walls. Effectiveness takes 7 days, requiring abstinence or a backup contraceptive method. The ring is removed to allow menses (1 week hormone-free similar to the pill and patch). A new ring is inserted after the 1 week. The ring may interfere with diaphragm placement and should not be used with that barrier method. Efficacy and side effects were similar to oral contraceptives and smoking is not advised.\(^1\)

Pooled studies with 1145 women and 12,109 cycles showed cycle control, tolerability, and acceptance with compliance at 90.8%.\(^6\) Earlier studies with a norethindrone/estradiol ring had high vomiting rates up to 20% and headaches in up to 50%.\(^7\) The ring is not suitable for patients who are more susceptible to vaginal irritation or ulceration. The ring may accidentally be expelled if not inserted correctly, while straining, while removing a tampon, or with severe constipation. If the ring is expelled or removed during the 3-week period, it should be rinsed with cool to lukewarm water and re-inserted as soon as possible. If the ring is out of the vagina for more than 3 hours, its effectiveness may be reduced and a backup contraceptive method should be used.
for at least 7 days. Various studies showed that 1-2.5% of women discontinued the ring due to foreign body sensation, coital problems, device expulsion, vaginitis, leukorrhea, headache, emotional lability, or weight gain. As with other hormonal methods, there is no STD protection. Cost for 1 ring (1 cycle) was $48.69 at the same national website.

CONCLUSION

These two new methods offer patients different routes to receive estrogen/progestin hormonal contraceptive without daily remembrance or injection. While they offer similar efficacy and cycle control, they have the same contraindications and similar side effects to oral combination contraceptives. The patch may have additional minor skin complaints, while the ring may have mild vaginal complaints.

References

1. http://www.fda.gov/bbs/topics
Author Information

Pamela Dull, MD
Assistant Clinical Professor, Department of Family Medicine, Ohio State University