Guest Editorial

›› Jennifer Gunter, MD

Does the risk of unplanned pregnancy outweigh the risk of VTE from hormonal contraception?

Let's improve contraceptive effectiveness in this country by putting the risk of thromboembolism in perspective. Here's a chance to educate our patients (and ourselves) and further individualize care.

It is well established that combined hormonal contraception increases the risk of venous thromboembolism (VTE), both deep venous thrombosis (DVT) and pulmonary embolism (PE).[1] Concerns exist that drospirenone-containing combined oral contraceptives (OCs), the norelgestromin patch, and the etonogestrel vaginal ring may increase the risk of VTE, compared with second-generation OCs, although results from studies evaluating the thromboembolic risk of these products are conflicting.[1,2]

An April 2012 safety communication from the US Food and Drug Administration (FDA) reported that "drospirenone-containing birth control pills may be associated with a higher risk for blood clots than other progestin-containing pills."[3] These pills now carry revised drug labels stating that epidemiologic studies that compared the risk of VTE reported that the risk ranged from no increase to a three-fold increase.[3]

Together, these studies and the FDA warning have garnered a lot of publicity and caused confusion and concern, leading both patients and providers to ask, "Are these specific products really safe?"

What is the baseline risk?

For nonusers of hormonal contraception, the baseline risk of VTE is 1 to 5 events per 10,000 woman-years.[1,3–5] Variables that increase a woman's risk of VTE include[1]:

- advanced age
- obesity
- immobility
- hematologic disorders
- pregnancy.

Estrogen-containing OCs with second-generation progestins (levonorgestrel, norgestimate, and norethindrone) have a risk of VTE of approximately 3 to 9 events per 10,000 woman-years.[1,3–5]

When study results conflict

The relative risk of VTE associated with drospirenone-containing OCs, compared with second-generation pills, ranges from 0.9 to 3.3. The relative risk is 1.2 to 2.2 for the norelgestromin patch, and 1.6 to 1.9 for the etonogestrel ring.[1–4]

All of the studies addressing the increased risk of VTE with drospirenone, the patch, and the ring have some limitations, such as the use of retrospective data, selection bias, study design, or inclusion of multiple pill regimens. However, most of the studies that found no association between these methods and VTE were industry-funded.[2] Criticisms of these studies have led to disagreement about the risk; it is unclear whether a

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Instant Poll

Do you agree that "the benefits of combined hormonal contraception with all methods outweigh the VTE risks"? Why or why not and what do you do in your practice?

Tell us—at **robert.barbieri@qhc.com**. Please include your name and city and state.

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definitive study ever can be designed and performed.[2]

Worst-case scenario. Using data from only those studies that show an increased risk of VTE, the increased number of VTE events above that conferred by a second-generation progestin would be approximately[2]:

- **ring**: 3–5/10,000 woman-years
- **patch**: 3–8/10,000 woman-years
- **drospirenone pill**: 5–10/10,000 woman-years (risk may be highest in the first year of use[3]).

Adding perspective

The risks of hormonal contraception must be weighed against the consequences of using *no* contraception: 43 million women in the United States are sexually active but do not wish to become pregnant. Without contraception, 85% will be pregnant within 1 year.[6] The risk of mortality during pregnancy in the United States is 1.8 deaths per 10,000 live births (5.5 deaths per 10,000 live births for women older than 39 years).[7] **The prevalence of VTE during pregnancy is 5 to 29 events per 10,000 women; during the postpartum period, the prevalence is 40 to 65 events per 10,000 women** (although some quote the VTE risk during the postpartum period to be as high as 200 to 400 events per 10,000 women).[3,5,8]

An unplanned pregnancy is more likely than a planned pregnancy to have a poor perinatal outcome or to end in abortion. The socioeconomic benefits of planning pregnancies must also be considered.

Hormonal contraception confers benefits beyond the prevention of pregnancy. In addition to a 50% reduction in the rate of endometrial cancer and a 27% reduction in the rate of ovarian cancer (and an even greater reduction for women who take OCs longer than 5 years), there are other benefits to hormonal contraception, such as reduced acne, dysmenorrhea, and menorrhagia.[9]

Individualize your care

When choosing a method of contraception, it is important not only to consider thromboembolic risk but also:

- previous contraceptive experiences
- previous pregnancies
- patient preference
- efficacy
- individual health factors
- cost.

For instance, even though the risk of VTE *may* be slightly increased among women using the norelgestromin patch, **compliance rates** are higher with the patch than with the pill.[10] A woman with two unplanned pregnancies while taking the pill who reports having difficulty adhering to a daily regimen is a different patch candidate than a woman who has successfully planned two pregnancies using OCs.

For many women, a weekly or monthly reversible contraceptive is the most desirable method. In addition to these more quantifiable factors, some women prefer a specific brand of pill or delivery method—and **satisfaction is a key component of contraception adherence**.

Educate your patient

I favor the approach of providing as much data as possible. Patients may read the black box warning in the package inserts for drospirenone-

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containing pills or the norelgestromin patch, find news sources that inaccurately report risk to garner the most compelling headline, or stumble across plaintiff's lawyers advertising lawsuits for drospirenone-containing pills, the contraceptive ring, and the patch. I can best counter confusion or misinformation by providing accurate information and putting possible risks into perspective up front. I now explain that the risk for VTE may be higher with certain pills, the ring, and the patch, but there just aren't enough high-quality data to be certain. I also explain that risk may mean different things for different patients, based on medical history and previous experiences. I have found that my patients appreciate the full disclosure.

Overall, the benefits of combined hormonal contraception with *all* methods outweigh the risk of VTE. In addition, issues related to **switching contraceptive methods may increase the risk of an unplanned pregnancy.** In 1995, when the United Kingdom warned that desogestrel pills carried an increased risk of VTE but were still "safe," the incidence of unplanned pregnancies and abortions increased.[2,11] The data regarding the risk of VTE associated with drospirenone, the patch, and the ring should not be an impetus for sweeping generalizations, but rather an opportunity to educate our patients (and ourselves) and to further individualize care.

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