



# INFORMATION FOR HEALTH CARE PROFESSIONALS



## Use of Oral Contraceptives in Women with Migraine

### Susan Hutchinson, MD

Family Medicine, Women's Medical Group of Irvine, Irvine, CA

Migraine is very common in women during child-bearing years. Many women need or desire contraception, or may have other conditions such as endometriosis, severe dysmenorrhea, menorrhagia or acne for which may benefit from combination oral contraceptive treatment. Is it safe to let women migraine patients take oral contraceptives? What are the risks? Are there certain dosages or formulations that may be better than others for women with migraine?

The most commonly used forms of oral contraceptives (OC) are a combination of ethinyl estradiol and a progestin. These are often referred to as 'combination hormonal contraception' or 'combination oral contraceptives'. Less commonly used is the progestin-only containing OC, often referred to as the "mini-pill". OC differ from hormone replacement therapy in several ways. They work by blocking ovulation and changing the cervical mucus and the lining of the uterus. Hormonal replacement therapy, as is commonly used in menopause, contains a much lower dose of estrogen/progesterone that is not sufficient to block ovulation and prevent pregnancy.

### SHOULD ORAL CONTRACEPTIVES BE USED TO TREAT MIGRAINE?

The use of oral contraceptives to prevent migraine is *not* clearly supported in studies or in the medical literature. Non-hormonal preventive agents such as the antiepileptic drugs, beta-blockers and antidepressants should be the mainstay of treatment in women needing a daily preventive. However, for those women, who need or want contraception, then using a monophasic low-dose combination contraceptive in a continuous fashion would theoretically help the migraine condition by keeping estradiol levels steady. This could be especially helpful for women suffering from menstrual migraines.

### MIGRAINE, ORAL CONTRACEPTION, AND THE RISK OF STROKE

The type of migraine is important when considering the risk of stroke. Women with *migraine without aura* have a low risk of stroke and venous thromboembolism (VTE), similar to women without migraine. Combination OC use increases a woman's risk for VTE and ischemic stroke. Observational studies found 1-3 additional cases of VTE among 10,000 women taking combination contraceptives for one year [1]. Taking into account a baseline 10-year ischemic stroke rate of 2.7 per 10,000 young women (ages 25-29) years, OC usage increases the risk to 4.0. The risk increases to 11.0 for women who have migraine with aura, and to 23.0 for women with *migraine with aura* using OC [2].

The World Health Organization (WHO) recommends that women with migraine with aura avoid combination contraceptive use [3]. The American College of Obstetricians and Gynecologists (ACOG) recommends using alternative forms of contraception in certain populations of women such as women over 35 years who smoke and women with migraine headaches [4].

There is little indication that OCs have a clinically important effect on headache activity in most women. Headache that occurs during early cycles of OC use tends to improve or disappear with continued use. No evidence supports the common clinical practice of switching OCs to treat headache. [5]

Combination OC are not recommended for some women with migraine. The screening history on such patients includes the following questions:

1. Is there a clotting disorder or history of deep venous thrombosis?
2. Are there risk factors for deep venous thrombosis or stroke? Take into account family history of heart attack or stroke under age 60 and cardiovascular risk factors such as age, high blood pressure, high cholesterol, low HDL cholesterol, obesity, smoking and high-sensitivity CRP (Reynolds Risk Score: Calculating Heart and Stroke Risk for Women)[6].
3. Does the patient experience migraine aura symptoms?

### **SPECIFIC ORAL CONTRACEPTIVE FORMULATIONS**

Oral contraceptive pills come in two types of formulations. In *monophasic oral contraception*, all the “active” pills contain the same amount of ethinyl estradiol and progestin (traditional pack: 21 days active/7 days placebo). The ‘active’ pills in *triphasic formulations* vary in the amount of ethinyl estradiol and/or the progestin (traditional pack: 21 days active/7 days placebo). Some newer formulations of extended monophasic formulations include cycles of 84 active pills/7 days placebo or 24 active pills/4 days placebo.

### **RECOMMENDATION FOR MIGRAINE PATIENTS**

A low-dose (35 mcg ethinyl estradiol or less) *monophasic* OC may be used in most women with migraine. There are no good data to suggest that the lower dose formulations of 20-30 mcg ethinyl estradiol are any safer than the 35 mcg when looking at VTE or ischemic stroke risk. Using the OC in a continuous-dose regimen (skipping the placebo pills) may theoretically help prevent menstrual migraine. One study showed an incidence of headaches of 9.7% in women using extended-regimen OC vs. 17.3% in those using standard-regimen OC. Any monophasic oral contraceptive can be adapted to be used in a continuous (extended) fashion.

### **FINAL COMMENTS**

OC are not contraindicated for most women with migraine headaches. Once these women are successfully screened and start taking an OC, appropriate follow-up to monitor the headache pattern is crucial. The patient must be counseled to report new onset aura symptoms or changes in cardiovascular risk status should be reported to the health care provider. The OC should be discontinued if migraines worsen after the first few months of treatment or if the patient develops aura. Close collaboration among all treating health care providers is essential in caring for this large population of women migraine patients who need or want oral contraception.

### **REFERENCES**

1. Gomes MP, Deitcher SR. Risk of venous thromboembolic disease associated with hormonal contraceptives and hormonal replacement therapy: a clinical review. *Arch Intern Med* 2004;164:1965-76.
2. Becker WJ. Use of oral contraceptives in patients with migraine. *Neurology* 1999;53 (4 suppl 1):S19-25.
3. World Health Organization. Improving access to quality care in family planning. 3<sup>rd</sup> ed. Geneva, Switzerland: Reproductive Health and Research, World Health Organization, 2004.
4. ACOG Committee on Practice Bulletins-Gynecology. ACOG Practice Bulletin. The use of hormonal contraception in women with coexisting medical conditions. Number 18, July 2000. *Int J Gynaecol Obstet* 2001;75:93-106.
5. Loder E. et al. Headache as a side effect of combination estrogen-progestin oral contraceptives: a systematic review. *Am J Ob Gyn.* 2005;193:636-649
6. [www.reynoldsriskscore.org](http://www.reynoldsriskscore.org)