

## How can you prevent migraines during pregnancy?

**Stephen J. Conner, MD**

D.D. Eisenhower Army Medical Center Family Medicine Residency Program, Ft. Gordon, Ga

**Elaine Sullo, MLS**

East Carolina University, Greenville, NC

### EVIDENCE-BASED ANSWER

No randomized controlled trials (RCT) have addressed pharmacologic prophylaxis of migraine for pregnant women. Two studies suggest that nonpharmacologic therapies (combinations of skin warming, relaxation, biofeedback, and physical therapy) not only relieved acute pain, but also decreased the frequency of headaches (strength of recommendation [SOR]: **B**, poor-quality

cohort and RCTs).

Practice guidelines and most review articles recommend avoiding prophylactic medications if possible. If a medication must be used, base the selection on both effectiveness for nonpregnant patients and established pregnancy safety from surveillance studies (SOR: **C**, expert opinion).

### CLINICAL COMMENTARY

#### Nonpharmacologic approaches, limited analgesics remain the mainstay of prevention for pregnant women

Standards of care favor minimizing any use of drugs with known or even theoretical risk to the fetus. That includes virtually all the classes of drugs prescribed for migraine prevention. Limited use of analgesics such as acetaminophen and opioids for migraine-abortive treatment is closer to the standard of care for severe headaches. The nonpharmacologic approaches delineated in this article are the mainstay of treatment.

Prophylactic pharmacotherapy for migraine would be more justifiable if it also

treated other conditions in which the risks/benefits for both the mother and fetus were clearer, such as maternal hypertension (in which labetalol can be effective for both conditions), or severe depression. Other nontraditional therapies that have shown efficacy for nonpregnant patients such as magnesium supplementation may be worthy of study since the risk of fetal harm in all trimesters appears remote.

In all cases, carefully documenting patient involvement in risk/benefit discussions.

**Robert Sheeler, MD**  
Mayo Clinic, Rochester, Minn

### Evidence summary

Eighteen percent of all women report migraines.<sup>1</sup> Among pregnant migraineurs, 2.5% to 8% reported worsening symptoms.<sup>1,2</sup> Guidelines recommend considering prophylaxis for nonpregnant patients if they experience at least 3 or 4 prolonged

severe attacks per month.<sup>3</sup>

**Nonpharmacological treatment.** Two studies were published together evaluating thermal biofeedback, relaxation training, and physical therapy exercises. The first, a cohort study, showed alleviation of symptoms for 15 of 19 women. The second, a

TABLE

### Pregnancy risk category of some prophylactic drugs for migraine

MEDICATION	PREGNANCY RISK CATEGORY
Labetalol (Normodyne, Trandate)	C/D*
Propranolol (Inderal, Inderide)	C/D*
Verapamil (Calan, Isoptin, Verelan)	C
Nifedipine (Procardia)	C
Amitriptyline (Limbitrol)	C
Nortriptyline (Aventyl, Pamelor)	D
Fluoxetine (Prozac)	C
Gabapentin (Neurontin)	C
Divalproex sodium (Depakote)	D
Topiramate (Topamax)	C

A=Controlled human studies show no risk, B=No evidence of risk in humans, but no controlled studies, C=Risk to humans has not been ruled out, D=Positive evidence of risk to humans from human or animal studies, X=Contraindicated in pregnancy.  
\*Category changes to D if used in 3rd trimester.  
Source: Briggs et al 2002.<sup>9</sup>

#### FAST TRACK

### Nonpharmacologic approaches are the mainstay of prevention—skin warming, relaxation training, biofeedback, and physical therapy

small unblinded RCT, compared 11 women using the combination treatment with 14 control women who received attention from the therapist but no other intervention. Over 72% of the treatment arm improved compared with nearly 29% of the control group.<sup>4</sup> The 30 women (19 from the original cohort and the 11 from the intervention arm of the RCT) were then followed as a cohort for the duration of pregnancy and 1 year postpartum. More than 67% of the patients continued to report a decrease in the frequency and severity of headache.<sup>5</sup> Interpretation of these studies is limited by small sample size and testing in settings with specialized resources that are not found in every community.

**Pharmacologic agents.** Randomized controlled trials have demonstrated that multiple medications have prophylactic benefit in the treatment of nonpregnant

patients with migraine. In particular, propranolol,<sup>6</sup> divalproex sodium/sodium valproate, and topiramate<sup>7</sup> have been effective. A single case report on the use of labetalol by a pregnant woman at 28 weeks' gestational age showed that it was effective in reducing the frequency and severity of her headaches after 1 week of use. This improvement persisted until delivery at 38 weeks.<sup>8</sup>

**Safety in pregnancy.** The Food and Drug Administration (FDA) assigns fetal risk categories to all drugs based on controlled studies in humans, animal reproduction studies, and surveillance studies.<sup>9</sup> There are no data about the effectiveness of medications for migraine prophylaxis in pregnancy so one cannot select a specific medication with certainty. However, it may be reasonable to select medications based on both effectiveness for nonpregnant patients and established safety as determined by the FDA's fetal risk summary.

The TABLE shows commonly used drugs for prophylaxis of migraine and their pregnancy risk category classification. It should be noted that even if risk has been demonstrated in a medication, not all risks are equal. For example, propranolol is class D because of increased risk for intrauterine growth restriction in the third trimester, while sodium valproate is class D because of known teratogenicity.<sup>9</sup>

#### Recommendations from others

Practice guidelines published by the American Academy of Neurology recommend avoidance of prophylactic medications in pregnancy, if possible. They also recommend nonpharmacologic treatment as an acceptable option in pregnancy. If drug treatment is necessary, they recommend selecting an agent with the lowest risk of adverse effects to the fetus.<sup>3</sup> Most review articles state that, if medication is necessary, it should be tailored towards other comorbidities, if possible; if there are no coexisting conditions, then calcium channel blockers or beta blockers would be the treatment of choice, based on safety data.<sup>1,10</sup>

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*Note:* The opinions and assertions contained herein are the private views of the author and are not to be construed as official or as reflecting the views of the US Army or the US Department of Defense.