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FILE: ■ Ginger (*Zingiber officinale*)
■ Nausea and Vomiting
■ Pregnancy

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RE: Ginger Studies for Treatment of Pregnancy-Related Nausea and Vomiting Reviewed

Boone SA, Shields KM. Treating pregnancy-related nausea and vomiting with ginger. *Ann Pharmacother.* October 2005;39:1710-1713.

According to the authors, up to 80% of women experience some nausea during the first trimester of pregnancy, and about 20% continue to experience symptoms past the 20th week. Treatment options for nausea and vomiting of pregnancy are limited because of safety concerns, and many pregnant patients prefer "natural" treatments. One popular option is ginger (*Zingiber officinale*). The authors reviewed the literature to assess the safety and efficacy of ginger to treat pregnancy-related nausea and vomiting.

For their review, the authors performed a literature search by using the Iowa Drug Information Service (1966-September 2004), *International Pharmaceutical Abstracts* (1971-September 2004), EMBASE (1966-September 2004), and MEDLINE (1966-September 2004). Text search terms included ginger, nausea, vomiting, emesis, and pregnancy. The authors identified seven articles for review.

A prospective cohort study evaluated pregnancy outcomes in women who used ginger during the first trimester of pregnancy. No statistical differences were seen between the 187 women enrolled in the ginger group and the 187 women enrolled in the no-exposure group when comparing number of stillbirths, spontaneous abortions, major malformations, and mean gestational age \pm SD at delivery.

The other studies were double-blind, randomized trials. In one placebo-controlled trial, 26 (14 treatment, 12 placebo) women received 1 tablespoon of syrup containing 250 mg of ginger or placebo 4 times daily for 2 weeks. A 10-point scale was used to evaluate the degree of nausea and impairment of daily functioning. Ten women in the ginger group and 2 in the placebo group experienced at least a 4-point improvement in the nausea scale following treatment. By day 6 of the study, 8 women in the ginger group and 2 in the placebo group had stopped vomiting.

In another placebo-controlled trial, 70 (32 ginger, 38 control) women in varying stages of pregnancy who experienced nausea with or without vomiting were instructed to take 1 capsule (250 mg of ginger or placebo) 4 times daily for 4 days. Twenty women in the ginger group and 1 in the placebo group

rated nausea "much better," and significantly fewer women in the ginger group reported vomiting than in the placebo group (12 vs. 23, respectively; $P=0.021$) after 4 days. Three spontaneous abortions occurred in the placebo treatment group and 1 in the ginger group; no congenital abnormalities were reported for either group.

In another study, 60 women received capsules containing 125 mg of ginger, and 60 received placebo 4 times daily for 4 days. An almost equal reduction in nausea and vomiting was seen in both groups. The ginger group reported significantly lower scores ($P=0.05$) than the placebo group for vomiting on the first 2 days only. Three spontaneous abortions occurred in the ginger treatment group and 1 in the placebo group; no congenital abnormalities were reported for either group.

Two studies compared the efficacy of ginger with that of vitamin B₆ to treat pregnancy-related nausea and vomiting. One double-blind, randomized, non-inferiority trial enrolled 291 women; the women received 1 capsule of either 350 mg ginger (146 women) or 25 mg vitamin B₆ (145 women) 3 times daily for 3 weeks. Both groups reported the same reduction in symptoms of nausea and vomiting. Overall improvement in health status was reported for both groups, but vitamin B₆ was superior to ginger in 6 of 8 items on the Medical Outcomes Study 36, a short-form health survey used to determine outcomes. There were 9 spontaneous abortions and 3 stillbirths in the vitamin B₆ group and 3 spontaneous abortions and no stillbirths in the ginger group. In the other study, 64 pregnant women received 500-mg ginger capsules and 64 women received 10-mg vitamin B₆ capsules 3 times daily for 3 days. The mean improvement in nausea scores on a visual analog scale, compared with baseline, was 1.4 ± 2.18 in the ginger group and 0.5 ± 1.44 in the vitamin group.

Women presenting with hyperemesis gravidarum (defined as "severe nausea and vomiting characterized by dehydration and electrolyte disturbances that require hospitalization") were enrolled in a double-blind, randomized, crossover trial comparing ginger with lactose placebo. Thirty women were hospitalized and received either 250 mg of ginger or placebo 4 times daily for 4 days, and then switched after a 2-day washout period. The women used a scoring system to measure changes in nausea and vomiting and their opinion about the treatment. The mean relief-from-symptom value was significant, with 3.9 for the ginger period and 0.4 for the placebo period ($P=0.035$). Nineteen women preferred the ginger treatment, 4 preferred the placebo treatment, and 4 indicated no preference. One miscarriage and no deformities or other birth complications were reported.

"While data are insufficient to recommend ginger universally and there are concerns with product quality due to limited regulation of dietary supplements, ginger appears to be a fairly low-risk and effective treatment for nausea and vomiting associated with pregnancy. In low doses, this may be appropriate for patients not responding to traditional first-line therapies," write the authors.

—Shari Henson

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