Is Herb Use during Pregnancy a Cause for Concern?

Women commonly use medicinal herbs during pregnancy; the National Birth Defects Prevention Study found that 9.4% of 4239 women reported herbal use during pregnancy, primarily in the first trimester. The herbs most commonly used by pregnant women have not been found to increase malformations. For example, teas made from raspberry leaf (Rubus idaeus) are used throughout pregnancy in many cultures, and teas made from ginger (Zingiber officinale), peppermint (Mentha x piperita), or spearmint (Mentha spicata) are common folk remedies for morning sickness.

Figure 1. Ginger (Zingiber officinale).

Figure 2. Spearmint (Mentha spicata).

Red raspberry leaf is commonly ingested by pregnant women as a uterine “tonic” said to ease both morning sickness and labor. While there is no clinical evidence of benefit, this use appears safe; a placebo-controlled clinical trial of raspberry leaf extract administered from 32 weeks gestation until labor found no significant differences between groups in pregnancy outcomes. Birth defects would not be a meaningful outcome here, because treatment was started in the third trimester. Ginger root, commonly used for morning sickness, has been tested in numerous clinical trials in doses up to 1

g/day and appears to be both effective and safe. No adverse pregnancy outcomes have been linked to ginger, and reproductive toxicology studies of ginger in rats have not identified problems.

Herbal treatment may help with threatened abortion. A systematic review of 44 randomized treatment-controlled trials with 5100 participants found that Chinese herbal medicines were as effective as Western medicines for treatment of threatened abortion. The combination of Chinese herbal medicines with Western medicines was more effective than Western medicines alone for continuing the pregnancy beyond 28 weeks of gestation.

Pregnant women (and their physicians) may believe that herbs are safer than drugs for treating certain conditions during pregnancy. While there is scant evidence for that belief in general, the use of Echinacea preparations (See Figure 3) for self-limited infections, cranberry (Vaccinia macrocarpon) for urinary treat infections, and St. John's wort (Hypericum perforatum) for depression have not been associated with major malformations or adverse birth outcomes; however, St. John's wort can lower drug concentrations because it can alter some drug-metabolizing enzymes.

Figure 3. Echinacea (Echinacea spp).

Not all herbs are benign. Licorice, an herb that is used medicinally but is consumed most commonly in the form of candy or chewing gum, appears to shorten gestation in humans. A questionnaire study in Finland, where licorice candy consumption is so common that participants could be separated into low, medium, and high-exposure groups, found that heavy exposure to licorice (more than 500 mg/ glycyrrhizinic acid per week) slightly shortened gestation and more than doubled the risk of delivering a baby before 38 weeks. Birth weight and head circumference were unaffected. A study of offspring in this cohort at 8 years of age found dose-related cognitive defects and attention problems in those exposed to high levels of licorice in utero. Other epidemiologic studies support adverse effects on offspring exposed to high maternal licorice intake during pregnancy. Licorice can increase endogenous glucocorticoids and overexposure to glucocorticoids affects prenatal programming of the hypothalamic-pituitary-adrenocortical axis.

Some midwives incorporate herbs into their practices, including oral or topical oil of evening primrose (Oenethera biennis) (See Figure 4) to speed cervical ripening or a mixture of blue cohosh (Caulophyllum thalictroides) and black cohosh (Cimicifuga racemosa) to treat stalled labor. In a clinical trial, orally ingested evening primrose oil from the 37th gestational week until birth did not shorten gestation or decrease the overall length of labor (evening primrose oil is more commonly applied topically to the cervix than ingested orally).

Figure 4. Evening Primrose (Oenothera biennis).

Maternal use of blue cohosh (Cimicifuga racemosa) in high doses has been associated with cases of stroke heart attack, and hypoxic-ischemic symptoms in exposed infants. Blue cohosh rhizomes contain vasoconstrictive compounds, including methylcytisine, caulosaponin, and caulophyllosaponin. A woman who took blue cohosh in an effort to induce abortion developed tachycardia, abdominal pain, vomiting, and muscle weakness, symptoms consistent with toxicity mediated through the nicotinic acetylcholine receptor.

Lack of adequate regulation of herbal products in the United States complicates the use of herbs. Herbal products may contain different herbs than are stated on the label, be adulterated with other drugs, or be contaminated with heavy metals or bacteria, some of which might cause adverse effects during pregnancy. For example, misidentification of an herb was associated with neonatal hirsutism in a baby born with hair on its forehead, pubic hair, swollen nipples and enlarged testes. The mother had taken a product that purportedly contained eleuthero, also called Siberian ginseng (Eleutherococcus senticosis) throughout pregnancy and during lactation. In a two-generation rat study, Eleutherococcus senticosis caused no adverse effects on reproductive performance. Subsequent analysis of the product taken by the mother showed that the herb consumed was actually Chinese silk vine (Periploca sepium), which is contraindicated during pregnancy.

Surveys of pregnant women and midwives have not revealed reckless use of problematic herbs. Some alarmist articles in the medical literature include lists of plants to avoid in pregnancy, but these lists often include plants that are never used in pregnancy, never used medicinally, or never ingested intentionally except by those attempting suicide. Such lists are not helpful to clinicians.

On the other hand, the safety of many herbs commonly used during pregnancy has not been established. Even where some data in humans exist, no studies specifically designed to detect adverse reproductive effects have been performed to date. There are many unknowns about the safety of herbs in pregnancy. The popularity of some herbs makes further research an important public health issue.

Suggested Reading

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