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NLM Citation: Drugs and Lactation Database (LactMed) [Internet]. Bethesda (MD): National Library of Medicine (US); 2006-. Chasteberry. [Updated 2018 Dec 3].
Bookshelf URL: https://www.ncbi.nlm.nih.gov/books/

Chasteberry

Revised: December 3, 2018.

CASRN: 91722-47-3

Drug Levels and Effects

Summary of Use during Lactation

Chasteberry (Vitex agnus-castus) is the fruit (berries) from the chaste tree. The berries contain essential oils (e.g., limonene, sabinene, 1,8-cineole [eucalyptol]), iridoid glycosides (e.g., agnoside, aucubin), diterpines (e.g., vitexilactone, rotundifuran), and flavonoids (e.g., apigenin, castican, orientin, isovitexin). Chasteberry is often used for irregularities of the menstrual cycle, infertility, premenstrual complaints, and cyclical breast pain.[1][2] Some constituents, possibly the diterpene clerodadienols, bind to dopamine D2 receptors in the pituitary.[3] In low doses, chasteberry increases serum prolactin and it is a purported galactogogue;[4][5][6] however, no scientifically valid clinical trials support this use and galactogogues should never replace evaluation and counseling on modifiable factors that affect milk production.[7] Some evidence indicates that high doses of chasteberry decrease serum prolactin and might decrease lactation.[8] It has been used to decrease breastmilk oversupply in Persian traditional medicine.[9]

In general, chasteberry is well tolerated. The most frequent adverse events are nausea, headache, gastrointestinal disturbances, menstrual disorders, acne, pruritus, and erythematous rash; however, all are mild and reversible. Among 352 nursing mothers given chasteberry tincture, 15 cases of pruritus, exanthema, urticaria, and some cases of early menstrual period occurred. Because of concerning safety data and possible lactation suppression, chasteberry should be avoided during lactation.[10]

Dietary supplements do not require extensive pre-marketing approval from the U.S. Food and Drug Administration. Manufacturers are responsible to ensure the safety, but do not need to *prove* the safety and effectiveness of dietary supplements before they are marketed. Dietary supplements may contain multiple ingredients, and differences are often found between labeled and actual ingredients or their amounts. A manufacturer may contract with an independent organization to verify the quality of a product or its ingredients, but that does *not* certify the safety or effectiveness of a product. Because of the above issues, clinical testing results on one product may not be applicable to other products. More detailed information about dietary supplements is available elsewhere on the LactMed Web site.

Drug Levels

Maternal Levels. Twelve nursing mothers who were19 weeks to 19 months postpartum ingested 100 mg of 1,8 cineole (eucalyptol) in the form of delayed-release capsules (Soledum-Klosterfrau Vertriebs GmbH, Germany) that release the drug in the intestine. Then they pumped 1 to 4 milk samples at the time they perceived the smell of eucalyptus on their breath which had been previously shown to be approximately concurrent. A total of 21 milk samples were obtained. Odor was rated by a panel of 3 to 5 experts as either smelling like eucalyptus or not. Fourteen of the samples had a distinct eucalyptus-like odor. Chemical analysis of the positive odor tests found 1,8-cineole in concentrations from 70 to about 2090 mcg/kg of milk, most in the range of 100 to 500 mcg/kg of milk. Samples with negative odor tests contained concentrations in the range of 0.98 to about 20.23 mcg/kg of milk. In one woman who donated 3 samples, the highest concentration of 71 mcg/kg occurred at 1.5 hours after ingestion, with concentrations of 1 mcg/kg before ingestion and 15 mcg/kg at 9.5 hours after ingestion.[11] Eight women had their milk analyzed for 1,8-cineole metabolites. Ten metabolites and several enantiomers of these metabolites were detected.[12][13]

Infant Levels. Relevant published information was not found as of the revision date.

Effects in Breastfed Infants

Nursing mothers who were participating in an experiment on the excretion of 1,8-cineole (eucalyptol) in breastmilk took a 100 mg capsule of 1,8-cineole orally. Although instructed not to, 12 mothers breastfed their infants during the experiment. Mothers reported that none of their infants refused their milk or breastfed less than usual. Two mothers felt that their infants were more agitated a few hours after breastfeeding. A third mother reported that the infant stopped nursing from time to time and "looked puzzled", but resumed nursing. Upon repeating the experiment 6 weeks later, the infant did not react in an unusual way during breastfeeding. [11]

Effects on Lactation and Breastmilk

In an old, uncontrolled, nonblinded case series, Agnus castus oligoplex (Madaus [Germany]) was used to increase lactation. One hundred twenty-five hospitalized postpartum mothers were given the product, which was obtained from the seed of the chaste tree, in a dosage of 30 drops 3 times a day. In cases with poor response the dose was increased to 30 and 50 drops a day. Of the 125 mothers, 100 responded and left the hospital nursing their infants. Of these, 61% nursed completely, and 39% only partially. Most of the latter were primiparous women or women who had not nursed their first child. The drug reportedly lost its effectiveness over time.[14] The methodology used in this paper does not meet current standards and cannot be considered as proof of a galactogogue effects of chasteberry.

A nonrandomized, partially blinded study compared a chasteberry preparation (Agnolyt, Madaus [Germany]) 15 drops 3 times daily to one tablet of thiamine 3 times daily in postpartum mothers. Milk production was measured by the average change in weight of infants of 353 mothers treated with chasteberry, 102 cases were treated with thiamine, and 362 untreated patients served as controls. No difference in milk production was noted until about 14 days postpartum. After that time, the mothers who received chasteberry had greater milk production than those in the other groups. The effect appeared to be greater in patients with cesarean section or complications such as fever.[15] The methodology used in this study does not meet current standards and cannot be considered as proof of a galactogogue effects of chasteberry.

A double-blind study of 52 women with hyperprolactinemia compared 20 mg daily of a chasteberry preparation (Strotan, Stroschein Pharma [Germany]) to placebo. After 3 months of therapy, the prolactin response to intravenous thyrotropin releasing hormone was reduced and menstrual irregularities were reduced in the subjects taking chasteberry.[16]

In an open study of 20 healthy males, a special Agnus castus extract (BP1095E1, equivalent to 40 mg extract of chasteberry) was studied in doses of 120 mg, 240 mg and 480 mg daily in 3 divided doses. Each subject received placebo and each of the doses for 14 days, followed by 1 drug-free week. Total prolactin secretion was measured on the last day of each study period. Following stimulation by thyrotropin releasing hormone, the 120 mg dose increased serum prolactin by an average of about 16% and the 480 mg dose decreased prolactin by an average of about 10%; the 240 mg dose was approximately neutral with respect to placebo.[17]

A randomized study compared chasteberry extract 40 mg daily (Agnucaston, Biomeks [Germany]) to bromocriptine 2.5 mg twice daily in 2 groups of 40 women. One group had mild hyperprolactinemia and the other had cyclic mastalgia. After 3 months of treatment, serum prolactin on day 3 to 5 of the menstrual cycle decreased by an average of 44% to 47% in all groups. No statistical difference was found between the 2 treatments in their prolactin-lowering effect.[18]

An 18-year old woman with amenorrhea, galactorrhea, and an elevated serum prolactin caused by a microprolactinoma began taking 15 drops of a chasteberry preparation containing 9 grams of chasteberry tincture per 100 grams of solution (Agnolyt, Madaus [Germany]) each morning. After 3 months her menstrual cycle had normalized, galactorrhea had ceased, and serum prolactin had decreased by 27% (although still elevated).[19]

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Substance Identification

Substance Name

Chasteberry

Scientific Name

Vitex agnus-castus

CAS Registry Number

91722-47-3

Drug Class

Breast Feeding

Lactation

Complementary Therapies

Phytotherapy

Plants, Medicinal