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Evening Primrose

Revised: December 3, 2018.

CASRN: 308064-97-3

Drug Levels and Effects

Summary of Use during Lactation

Evening primrose (Oenothera biennis) seed oil contains gamma-linolenic acid (GLA). Evening primrose oil (EPO) has no specific lactation-related uses. It is most often used for premenstrual syndrome, cyclical mastalgia, and atopic dermatitis. Supplementation of nursing mothers with EPO for 8 months increased the breastmilk content of linoleic acid and total GLA plus its metabolite, dihomo-gamma-linolenic acid, and caused no adverse reactions in the breastfed infants.[1] Supplementation of mothers with GLA had no effect on the development of atopic dermatitis in their breastfed infants.[2] Evening primrose oil is "generally recognized as safe" (GRAS) as a food by the U.S. Food and Drug Administration.

Heating breastmilk to 63.5 degrees C reduces the concentration of linolenic acid by about 22%. Freezing milk at -20 degrees C and thawing more than once decreases linolenic acid concentration by an average of 63%.[3] 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. Thirty-six nursing mothers who were 2 to 6 months postpartum took either 2 grams of evening primrose oil (Efamol; n = 18) or placebo (n = 18) twice daily. The total daily intake of the treated mothers was 2.8 grams of linoleic acid and 320 mg of GLA. Samples of milk were taken on entry to the study and after 8 months of supplementation. Breastmilk of supplemented mothers contained more linoleic acid and total GLA plus its metabolite, dihomo-gamma-linolenic acid, than at baseline. Mothers who received placebo had no changes from baseline.[1]

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

Effects in Breastfed Infants

Eighteen nursing mothers took EPO 2 grams daily for 8 months starting at an average of 3.4 months postpartum. After 8 months of supplementation, no adverse reactions were reported in their breastfed infants.[1]

Effects on Lactation and Breastmilk

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

References

1. Cant A, Shay J, Horrobin DF. The effect of maternal supplementation with linoleic and gamma-linolenic acids on the fat composition and content of human milk: a placebo-controlled trial. J Nutr Sci Vitaminol (Tokyo). 1991;37:573-9. PubMed PMID: 1668100.
2. Kitz R, Rose MA, Schonborn H et al. Impact of early dietary gamma-linolenic acid supplementation on atopic eczema in infancy. Pediatr Allergy Immunol. 2006;17:112-7. PubMed PMID: 16618360.
3. Wardell JM, Hill CM, D'Souza SW. Effect of pasteurization and of freezing and thawing human milk on its triglyceride content. Acta Paediatr Scand. 1981;70:467-71. PubMed PMID: 7315290.

Substance Identification

Substance Name

Evening Primrose

Scientific Name

Oenothera biennis

CAS Registry Number

308064-97-3

Drug Class

Breast Feeding

Lactation

Complementary Therapies

Oils

Phytotherapy

Plants, Medicinal