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Chlorella

Revised: May 1, 2019.

Drug Levels and Effects

Summary of Use during Lactation

Chlorella sp. is a fresh water green algae that contains various nutrients such as carotenes, protein, fiber, vitamins, minerals and chlorophyll. Taking chlorella supplements during pregnancy may decrease dioxin content and increase the concentration of some carotenes and immunoglobulin A in breastmilk. Chlorella is usually well tolerated, but can cause nausea, diarrhea, abdominal cramping, flatulence, and green stools. Allergic reactions, including asthma and anaphylaxis, have been reported in people taking Chlorella, and in those preparing chlorella tablets. Photosensitivity reactions have also occurred following ingestion of Chlorella. The high vitamin K content of Chlorella may decrease warfarin effectiveness. Maternal Chlorella intake would not be expected to cause adverse effects in most breastfed infants and is probably acceptable during breastfeeding. Green breastmilk discoloration has been reported.[1]

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

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

Effects in Breastfed Infants

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

Effects on Lactation and Breastmilk

Studies in Japan found that supplementation with Chlorella pyrenoidosa (Sun Chlorella A tablets, Sun Chlorella Corp., Kyoto, Japan) during pregnancy decreased the amount of dioxins and increased the concentration of immunoglobulin A in breastmilk.[2][3]

Ten healthy women took 2 grams of dried Chlorella powder in a tablet formulation (Biorinck, Chlorella Industry Co. Ltd.) after each of 3 main meals of the day, beginning at 16 to 20 weeks of pregnancy and continuing until delivery. Tablets contained lutein 270 mg, beta-carotene 90 mg, zeaxanthin 30 mg, alpha-carotene 7 mg, vitamin K1 (phylloquinone, phytonadione) 3 mg, and chlorophylls 3.2 grams per 100 grams, in addition to numerous vitamins and minerals. Compared to 10 pregnant women who took no Chlorella, the breastmilk of the treated women contained significantly more beta-carotene (1.7-fold higher) and lutein (2.7-fold higher), zeaxanthin (2.6-fold higher) in the first 6 days postpartum. No differences were found in the breastmilk content of beta-cryptoxanthin, alpha-carotene, or lycopene between groups.[4]

Three days before delivery, a mother replaced her normal iron supplement with blue-green algae complex (blue-green algae, chlorella, and spirulina; Ambrosia-SupHerb Ltd., Israel) 750 mg once daily. On the second day after delivery she expressed 30 mL of dark green milk. No abnormal milk cytology was found and a microbiologic culture was negative. After stopping the supplement, her milk returned to a normal color over the next 3 days. The change in color was probably caused by the algae supplement.[1]

References

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2. Nakano S, Noguchi T, Takekoshi H et al. Maternal-fetal distribution and transfer of dioxins in pregnant women in Japan, and attempts to reduce maternal transfer with Chlorella (Chlorella pyrenoidosa) supplements. Chemosphere. 2005;61:1244-55. PubMed PMID: 15985279.
3. Nakano S, Takekoshi H, Nakano M. Chlorella (Chlorella pyrenoidosa) supplementation decreases dioxin and increases immunoglobulin A concentrations in breast milk. J Med Food. 2007;10:134-42. PubMed PMID: 17472477.
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Substance Identification

Substance Name

Chlorella

Scientific Name

Chlorella sp.

Drug Class

Breast Feeding

Lactation

Complementary Therapies

Phytotherapy

Plants, Medicinal