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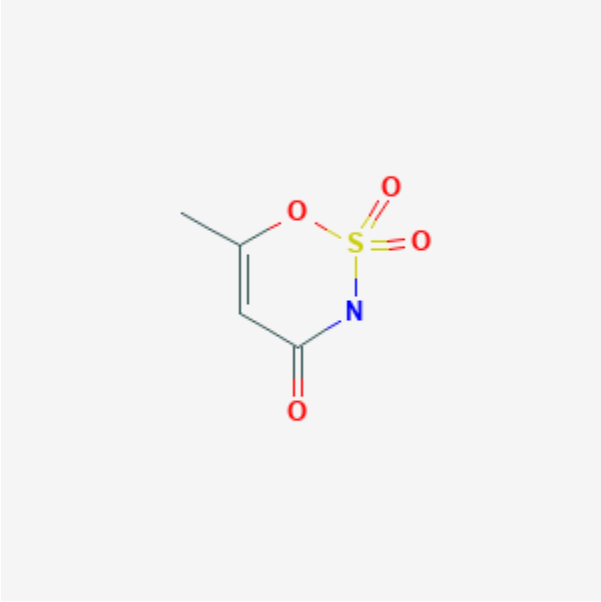
NLM Citation: Drugs and Lactation Database (LactMed) [Internet]. Bethesda (MD): National Library of Medicine (US); 2006-. Acesulfame. [Updated 2019 Feb 7].
Bookshelf URL: https://www.ncbi.nlm.nih.gov/books/

Acesulfame

Revised: February 7, 2019.

CASRN: 33665-90-6



Drug Levels and Effects

Summary of Use during Lactation

No well-controlled data are available on the extent of passage of acesulfame into breastmilk. However, acesulfame has been found in variable concentrations in the breastmilk of nursing mothers who report consuming artificially sweetened beverages and sweetener packets in the past 24 hours. Even some mothers who reported not consuming artificial sweeteners have small amounts of acesulfame in their breastmilk. Some authors suggest that women may wish to limit the consumption of nonnutritive sweeteners while breastfeeding because their effect on the nursing infants are unknown.[1][2]

Drug Levels

Maternal Levels. Twenty lactating women completed background questionnaires about breastfeeding and the intake of nonnutritive sweeteners in the prior 24 hours. Each then donated a milk sample that was analyzed for

the presence of nonnutritive sweeteners. Sweetener intake was primarily from diet sodas and sweetener packets. Of the 14 women who reported intake of a nonnutritive sweetener, 9 had acesulfame detectable in their breastmilk in concentrations ranging from 0.01 to 2.22 mg/L. In addition, 4 of the 6 women reporting no nonnutritive sweetener intake also had milk acesulfame levels ranging from 0.02 to 0.09 mg/L, probably from hidden sources in food.[1]

Thirty-four women, 14 with normal weight and 20 with obesity, ingested 12 fluidounces of a caffeine-free diet cola containing 68 mg of sucralose and 41 mg acesulfame potassium after an overnight fast prior to breakfast. Breastmilk samples were taken from the same breast every hour for 6 hours. Acesulfame was detectable in breastmilk at baseline before the soda in 18% of women. Peak acesulfame concentrations in breastmilk ranged from 299 to 4764 mcg/L, with one woman having the very high concentration; the median peak concentrations was 945 mcg/L. Acesulfame first appeared in breastmilk 2 hours after ingestion and the peak acesulfame concentration in breastmilk occurred at about 4 hours for all but the outlier, who had a peak concentration at 1 hour after ingestion.[3]

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

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

Alternate Drugs to Consider

Aspartame

References

1. Sylvetsky AC, Gardner AL, Bauman V et al. Nonnutritive sweeteners in breast milk. J Toxicol Environ Health A. 2015;78:1029-32. PubMed PMID: 26267522.
2. Rother KI, Sylvetsky AC, Schiffman SS. Non-nutritive sweeteners in breast milk: Perspective on potential implications of recent findings. Arch Toxicol. 2015;89:2169-71. PubMed PMID: 26462668.
3. Rother KI, Sylvetsky AC, Walter PJ et al. Pharmacokinetics of sucralose and acesulfame-potassium in breast milk following ingestion of diet soda. J Pediatr Gastroenterol Nutr. 2018;66:466-70. PubMed PMID: 29077645.

Substance Identification

Substance Name

Acesulfame

CAS Registry Number

33665-90-6

Drug Class

Breast Feeding

Lactation

Artificial Sweeteners

Sweetening Agents