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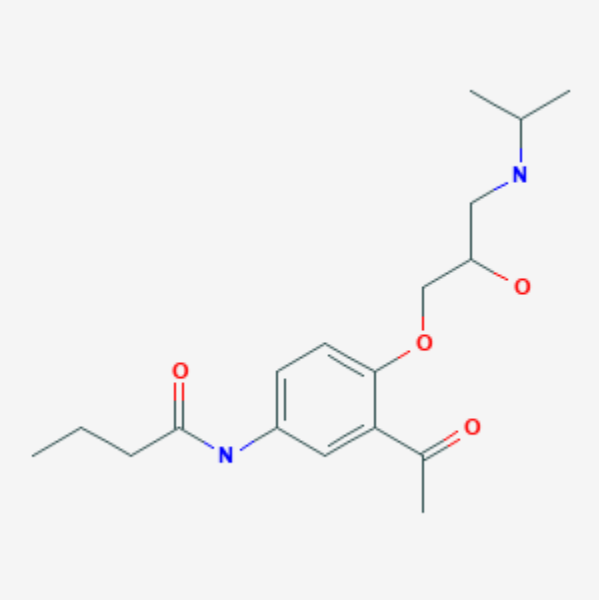
NLM Citation: Drugs and Lactation Database (LactMed) [Internet]. Bethesda (MD): National Library of Medicine (US); 2006-. Acebutolol. [Updated 2020 Mar 16].
Bookshelf URL: https://www.ncbi.nlm.nih.gov/books/

Acebutolol

Revised: March 16, 2020.

CASRN: 37517-30-9



Drug Levels and Effects

Summary of Use during Lactation

Because of the relatively extensive excretion of acebutolol and its active metabolite diacetolol into breastmilk and their extensive renal excretion, other agents may be preferred, especially while nursing a newborn or preterm infant.[1-3]

Drug Levels

The excretion of beta-adrenergic blocking drugs into breastmilk is largely determined by their protein binding. Those with low binding such as acebutolol (25%) are more extensively excreted into breastmilk.[4] Diacetolol is a renally excreted metabolite with equal beta-blocking activity that is more extensively excreted into breastmilk than acebutolol. In newborn infants, the apparent half-lives of acebutolol and diacetolol averaged 10.1 to 15.6

hours and 19.8 hours, respectively.[5,6] It is estimated that a fully breastfed infant would receive about 3.5% of the maternal weight-adjusted dosage of acebutolol.[7]

Maternal Levels. One mother with renal impairment taking 400 mg/day of acebutolol 3 days postpartum had milk levels of 1.5 mg/L of acebutolol and 2.6 mg/L of diacetolol at an unspecified time after the dose. Another mother with renal impairment taking 1200 mg/day of acebutolol 3 days postpartum had milk levels of 1.1 mg/L before a 400 mg dose and 4.1 mg/L 1.5 hours after the dose. Diacetolol milk levels were 6.3 and 6.6 mg/L, respectively, at the same times. A third mother with no renal impairment had milk acebutolol levels ranging from 0.5 to 0.7 mg/L and diacetolol levels of 1.2 to 1.8 at unspecified times while taking 200 to 600 mg/day of acebutolol from 6 to 9 days postpartum.[1]

Infant Levels. One mother with renal impairment was taking 400 mg/day of acebutolol and had high plasma levels of acebutool and its active metabolite diacetolol. Her infant had serum levels of acebutolol and diacetolol of 244 mcg/L and 594 mcg/L, respectively, on day 1 of life wich decreased to 40 and 221 mcg/L on day 4 of life when breastfeeding was begun. On day 5, 24 hours after beginning breastfeeding, serum levels of acebutolol and diacetolol increased to 85 mcg/L and 803 mcg/L, respectively. On day 7 of life, acebutolol and diacetolol were 28 mcg/L and 90 mcg/L, respectively. On day 8 levels were 72 mcg/L and 261 mcg/L, respectively. The infants of two other nursing mothers taking 200 mg daily and 400 mg daily, infant plasma levels dropped rapidly after birth.[1]

Effects in Breastfed Infants

A study of mothers taking beta-blockers during nursing found a numerically, but not statistically significant increased number of adverse reactions in those taking any beta-blocker. Although the ages of infants were matched to control infants, the ages of the affected infants were not stated. One mother reported no adverse effects in her breastfed infant (age unstated) during acebutolol use.[8]

Hypotension, bradycardia, and transient tachypnea occurred in a newborn infant, probably because of acebutolol and diacetolol in breastmilk. The mother was taking 400 mg/day of acebutolol and had renal impairment. Two other neonates in this report who were breastfed had no adverse reactions noted.[1]

Effects on Lactation and Breastmilk

Relevant published information on the effects of beta-blockade or acebutolol during normal lactation was not found as of the revision date. A study in 6 patients with hyperprolactinemia and galactorrhea found no changes in serum prolactin levels following beta-adrenergic blockade with propranolol.[9]

Alternate Drugs to Consider

Propranolol, Labetalol, Metoprolol

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Substance Identification

Substance Name

Acebutolol

CAS Registry Number

37517-30-9

Drug Class

Breast Feeding

Lactation

Antihypertensive Agents

Adrenergic Beta-Antagonists

Antiarrhythmics