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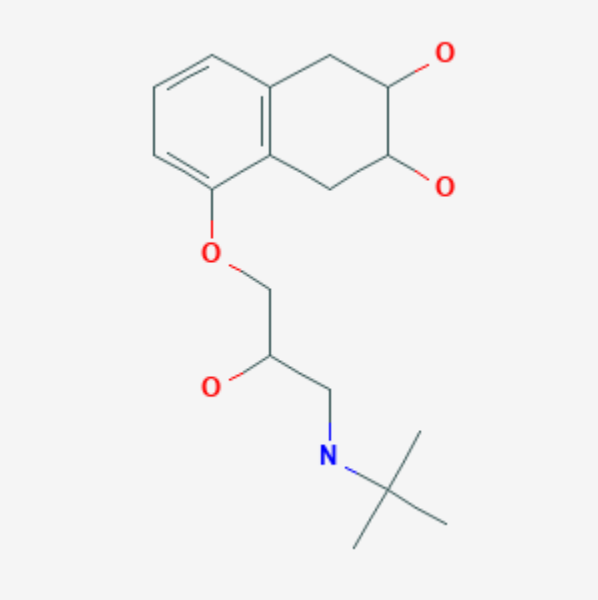
Nadolol

Revised: October 31, 2018.

CASRN: 42200-33-9



Drug Levels and Effects

Summary of Use during Lactation

Because of its relatively extensive excretion into breastmilk and its renal excretion, other beta-adrenergic blocking drugs are preferred to nadolol, especially while nursing a newborn or preterm infant.

Drug Levels

The excretion of beta-adrenergic blocking drugs into breastmilk is largely determined by their protein binding. Those with low binding are more extensively excreted into breastmilk.[1] Accumulation of the drugs in the infant is related to the fraction excreted in urine. With 25% protein binding, 70% renal excretion and long half-life, nadolol presents a high risk for accumulation in infants, especially neonates. It is estimated that a fully breastfed infant would receive about 5.1% of the maternal weight-adjusted dosage of nadolol.[2]

Maternal Levels. One mother received nadolol 20 mg daily during gestation for hypertension, with the last dose taken 20 hours before delivery. A single sample of breastmilk obtained 38 hours postpartum (58 hours after the last dose) was 146 mcg/L.[3]

After oral doses of 80 mg daily in 12 women, peak nadolol levels occurred in milk at an average of 6 hours after the dose, compared to peak serum levels at 2.7 hours. Serum and milk half-lives were both about 22 hours. Steady-state milk levels occurred after 3 days of therapy; peak milk levels averaged 443 mcg/L and the mean milk levels averaged 357 mcg/L. None of the infants were breastfed.[4][5]

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

Effects in Breastfed Infants

Relevant published information on nadolol was not found as of the revision date. 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. None of the mothers were taking nadolol.[6]

Effects on Lactation and Breastmilk

Relevant published information on the effects of beta-blockade or nadolol 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.[7]

Alternate Drugs to Consider

Propranolol, Labetalol, Metoprolol

References

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Substance Identification

Substance Name

Nadolol

CAS Registry Number

42200-33-9

Drug Class

Breast Feeding

Lactation

Antihypertensive Agents

Adrenergic Beta-Antagonists

Antiarrhythmics