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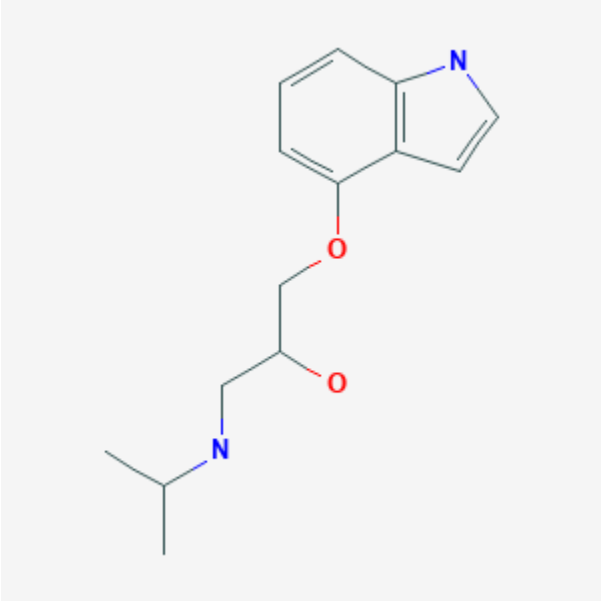
Pindolol

Revised: October 31, 2018.

CASRN: 13523-86-9



Drug Levels and Effects

Summary of Use during Lactation

Recommendation for Use During Lactation: Limited information indicates that maternal pindolol produces low levels in milk. It also has a short half-life and only moderate renal excretion, so it would not be expected to cause any adverse effects in breastfed infants, especially if the infant is older than 2 months.

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 60% protein binding, 40% renal excretion and a half-life of 3 hours, pindolol presents moderately low risk for accumulation in infants. Pindolol is administered as a racemic mixture, but the (-)-*S* enantiomer has much more activity than the (+)-*R* enantiomer.[2]

Maternal Levels. Three women were receiving pindolol 10 mg every 12 hours during pregnancy and postpartum. A single breastmilk sample was collected from each mother on the day of delivery at 11, 12 or 14 hours after the previous pindolol dose. The 2 pindolol enantiomers were measured separately in milk, with (-)-*S*-pindolol concentration averaging 3.1 mcg/L (range 1.5 to 3.9 mcg/L) and (+)-*R*-pindolol averaging 1.9 mcg/L (range 1.2 to 4.2 mcg/L).[2] Using the AUC and milk/plasma ratio values reported, a fully breastfed infant would receive an average of 0.36% of the maternal weight-adjusted dosage of pindolol.

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

Effects in Breastfed Infants

Relevant published information on pindolol 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 pindolol.[3]

Effects on Lactation and Breastmilk

Relevant published information on the effects of beta-blockade or pindolol 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.[4]

Alternate Drugs to Consider

Propranolol, Labetalol, Metoprolol

References

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2. Goncalves PV, Cavalli RC, Cunha SP, Lanchote VL. Determination of pindolol enantiomers in amniotic fluid and breast milk by high-performance liquid chromatography: applications to pharmacokinetics in pregnant and lactating women. J Chromatogr B Analyt Technol Biomed Life Sci. 2007;852:640-5. PubMed PMID: 17307403.
3. Ho TK, Moretti ME, Schaeffer JK et al. Maternal beta-blocker usage and breast feeding in the neonate. Pediatr Res. 1999;45:67A. Abstract 385.
4. Board JA, Fierro RJ, Wasserman AJ et al. Effects of alpha- and beta-adrenergic blocking agents on serum prolactin levels in women with hyperprolactinemia and galactorrhea. Am J Obstet Gynecol. 1977;127:285-7. PubMed PMID: 556882.

Substance Identification

Substance Name

Pindolol

CAS Registry Number

13523-86-9

Drug Class

Breast Feeding

Lactation

Antihypertensive Agents

Adrenergic Beta-Antagonists

Antiarrhythmics