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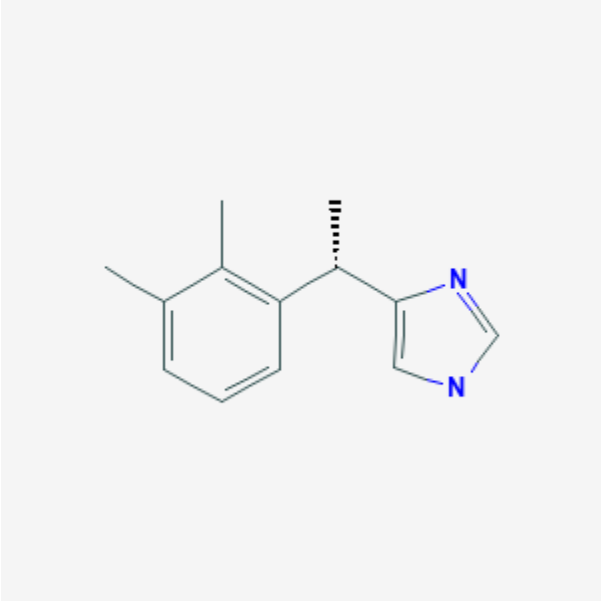
Dexmedetomidine

Revised: December 3, 2018.

CASRN: 113775-47-6



Drug Levels and Effects

Summary of Use during Lactation

Limited data indicate that very small amounts of dexmedetomidine are excreted into breastmilk for 6 hours after the end of an infusion. Because of the small amounts of colostrum secreted in the first day postpartum, the dose received by a neonate is unlikely to be of any consequence when the drug is used during delivery. The drug is absent from breastmilk by 24 hours after the end of an infusion. Dexmedetomidine would not be expected to cause adverse effects in breastfed infants or neonates.

Drug Levels

Maternal Levels. Following delivery by cesarean section, 4 women were given dexmedetomidine by continuous infusion 6 mcg/kg/hour for 10 minutes, followed by a dose of 0.2 to 0.7 mcg/kg/hour until closure of the incision, with total dosages ranging from 60 to 75 mcg. Breastmilk samples were collected at 0, 6 and 24 hours

after the end of the infusion. The mean breastmilk dexmedetomidine concentration at the end of the infusion was 578 ng/L (range 390 to 594 ng/L). Dexmedetomidine was detected in human breast milk in 3 of the subjects 6 hours after discontinuation of dexmedetomidine, with an average of 24 ng/L. The drug was undetectable (<3 ng/L) in 1 breastmilk sample at 6 hours and in all samples at 24 hours after discontinuation. The authors calculated a weight-adjusted percentage of maternal dosage ranging from 0.04 to 0.098%.[1]

The same authors collected colostrum samples from 10 women at 6, 12 and 24 hours after returning to their ward after receiving dexmedetomidine for cesarean section delivery. Dexmedetomidine was given by continuous infusion 6 mcg/kg/hour for 10 minutes, followed by a dose of 0.7 mcg/kg/hour until closure of the incision. At 6 hours, two women had undetectable dexmedetomidine levels in colostrum, while the other 8 had dexmedetomidine levels ranging from 8.1 to 30.4 ng/L (median 12 ng/L). At 12 hours only one woman had dexmedetomidine detectable at 13.6 ng/L. Dexmedetomidine was undetectable in all women at 24 hours.[2]
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

(Intravenous Sedation) Etomidate, Methohexital, Midazolam, Propofol

References

1. Nakanishi R, Yoshimura M, Suno M et al. Detection of dexmedetomidine in human breast milk using liquid chromatography-tandem mass spectrometry: Application to a study of drug safety in breastfeeding after Cesarean section. J Chromatogr B Analyt Technol Biomed Life Sci. 2017;1040:208-13 PubMed PMID: 27856195.
2. Yoshimura M , Kunisawa T, Suno M et al. Intravenous dexmedetomidine for cesarean delivery and its concentration in colostrum. Int J Obstet Anesth. 2017;32:28-32. PubMed PMID: 28687146.

Substance Identification

Substance Name

Dexmedetomidine

CAS Registry Number

113775-47-6

Drug Class

Breast Feeding

Lactation

Hypnotics and Sedatives

Anesthetics, Intravenous

Adrenergic alpha-2 Receptor Agonists

Analgesics