



Epinephrine

Revised: July 20, 2020.

CASRN: 51-43-4



Drug Levels and Effects

Summary of Use during Lactation

No information is available on the use of epinephrine during breastfeeding. Because of its poor oral bioavailability and short half-life, any epinephrine in milk is unlikely to affect the infant. High intravenous doses of epinephrine might reduce milk production or milk letdown. Low-dose intramuscular (such as Epi-Pen), epidural, topical, inhaled or ophthalmic epinephrine are unlikely to interfere with breastfeeding. To substantially diminish the effect of the drug after using eye drops, place pressure over the tear duct by the corner of the eye for 1 minute or more, then remove the excess solution with an absorbent tissue. Epinephrine is the first line-medication of choice for treatment of anaphylaxis; it should be used in the same manner in breastfeeding and non-breastfeeding patients.

Disclaimer: Information presented in this database is not meant as a substitute for professional judgment. You should consult your healthcare provider for breastfeeding advice related to your particular situation. The U.S. government does not warrant or assume any liability or responsibility for the accuracy or completeness of the information on this Site.

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Drug Levels

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

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 in nursing mothers was not found as of the revision date. Intravenous epinephrine infusion in nonnursing subjects and in women with hyperprolactinemia decreases serum prolactin concentrations.[1] Animal data indicate that intraarterial epinephrine can decrease serum oxytocin and inhibit milk ejection.[2,3] However, low-dose infusion of epinephrine as part of epidural analgesia does not impair breastfeeding in nursing mothers.[4,5] The prolactin level in a mother with established lactation may not affect her ability to breastfeed.

An Egyptian study compared lidocaine 2% (n = 75) to lidocaine 2% plus epinephrine 1:200,000 (n = 70) as a wound infiltration following cesarean section. Patients who received epinephrine in combination with lidocaine began breastfeeding at 89 minutes following surgery compared to 132 minutes for those receiving lidocaine alone. The difference was statistically significant.[6]

References

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2. Gorewit RC, Aromando MC. Mechanisms involved in the adrenalin-induced blockade of milk ejection in dairy cattle. *Proc Soc Exp Biol Med.* 1985;180:340–7. PubMed PMID: 4048172.
3. Song SL, Crowley WR, Grosvenor CE. Evidence for involvement of an adrenal catecholamine in the beta-adrenergic inhibition of oxytocin release in lactating rats. *Brain Res.* 1988;457:303–9. PubMed PMID: 2851365.
4. Chang ZM, Heaman MI. Epidural analgesia during labor and delivery: Effects on the initiation and continuation of effective breastfeeding. *J Hum Lact.* 2005;21:305–14. PubMed PMID: 16113019.
5. Radzyminski S. The effect of ultra low dose epidural analgesia on newborn breastfeeding behaviors. *J Obstet Gynecol Neonatal Nurs.* 2003;32:322–31. PubMed PMID: 12774874.
6. Tharwat AA, Yehia AH, Wahba KA, et al. Efficacy and safety of post-cesarean section incisional infiltration with lidocaine and epinephrine versus lidocaine alone in reducing postoperative pain: A randomized controlled double-blinded clinical trial. *J Turk Ger Gynecol Assoc.* 2016;17:1–5. PubMed PMID: 27026771.

Substance Identification

Substance Name

Epinephrine

CAS Registry Number

51-43-4

Drug Class

Breast Feeding

Lactation

Adrenergic Agonists

Adrenergic alpha-Agonists

Adrenergic beta-Agonists

Antiglaucoma Agents

Bronchodilator Agents

Catecholamines

Mydriatics

Sympathomimetics

Vasoconstrictor Agents