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Lidocaine

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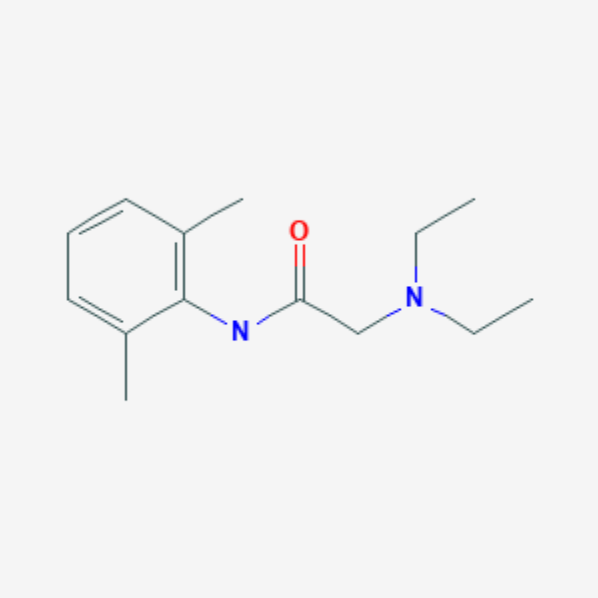
CASRN: 137-58-6



Drug Levels and Effects

Summary of Use during Lactation

Lidocaine concentrations in milk during continuous IV infusion, epidural administration and in high doses as a local anesthetic are low and the lidocaine is poorly absorbed by the infant. Lidocaine is not expected to cause any adverse effects in breastfed infants. No special precautions are required.[1][2][3]

Lidocaine *during* labor and delivery with other anesthetics and analgesics has been reported by some to interfere with breastfeeding. However, this assessment is controversial and complex because of the many different combinations of drugs, dosages and patient populations studied as well as the variety of techniques used and deficient design of many of the studies. Overall it appears that with good breastfeeding support epidural lidocaine with or without fentanyl or one of its derivatives has little or no adverse effect on breastfeeding success.[4][5][6][7][8] Labor pain medication may delay the onset of lactation.

Drug Levels

Maternal Levels. A nursing mother who was 10 months postpartum was given intravenous lidocaine 75 mg, then 50 mg 5 minutes later, concurrent with starting a continuous lidocaine infusion at a rate of 2 mg/minute. After 7 hours the infusion was stopped a milk sample was provided. The breastmilk contained 800 mcg/L of lidocaine; metabolites were not measured.[1]

A woman received 20 mg of lidocaine with 5 mg of epinephrine (2 mL of a 2% lidocaine with 0.5% epinephrine) injected for a dental procedure 3 days postpartum. Milk levels 2 hours after the injection were 66 mcg/L of lidocaine and 35 mcg/L of its MEGX metabolite. At 6.5 hours after the dose, the levels were 44 mcg/L and 41 mcg/L, respectively.[9]

Twenty-two women received epidural lidocaine 2% and bupivacaine 0.5% for pain control during cesarean delivery. Lidocaine dosage averaged 183 mg (range 60 to 500 mg). Average milk lidocaine concentrations were 860 mcg/L at 2 hours after delivery, 460 mcg/L at 4 hours after delivery and 220 mcg/L at 12 hours after delivery.[2]

A woman undergoing tumescent liposuction received 4.2 g of lidocaine into her fat. Seventeen hours after the procedure, a milk lidocaine level was 550 mcg/L. It was previously shown that maximum serum lidocaine concentrations occur at about this time.[3]

Six women were given 3.6 mL of lidocaine 2% without epinephrine and a seventh received lidocaine 2% without epinephrine 4.5 mL and 7.2 mL on 2 separate occasions for dental procedures. Milk lidocaine concentrations averaged 120.5 mcg/L at 3 hours after the dose and 58.3 mcg/L 6 hours after the dose. Milk MEGX levels were 97.5 and 52.7 mcg/L at 3 and 6 hours after the dose, respectively.[10] Using the average daily intake reported in this study, an exclusively breastfed infant would receive 0.9% of the maternal weight-adjusted dosage of lidocaine and another 0.8% in the form of the metabolite MEGX.

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

Effects in Breastfed Infants

Lidocaine in doses ranging from 60 to 500 mg administered to the mother by intrapleural or epidural routes during delivery had no effect on their 14 infants who were either breastfed or received their mother's breastmilk by bottle.[2]

A neurology group reported using 1% lidocaine for peripheral nerve blocks in 14 nursing mothers with migraine. They reported no infant side effects and considered the procedure safe during breastfeeding.[11]

Effects on Lactation and Breastmilk

A randomized study compared three groups of women undergoing elective cesarean section who received subcutaneous infusion of 20 mL of lidocaine 1% plus epinephrine 1:100:000 at the incision site. One group received the lidocaine before incision, one group received the lidocaine after the incision, and the third received 10 mL before the incision and 10 mL after. Women in the pre-and post-incision administration group initiated breastfeeding earlier than those in the pre-incision administration (3.4 vs 4.1 hours). There was no difference between the post-incision administration group and the other groups in time to breastfeeding initiation.[12]

A national survey of women and their infants from late pregnancy through 12 months postpartum compared the time of lactogenesis II in mothers who did and did not receive pain medication during labor. Categories of medication were spinal or epidural only, spinal or epidural plus another medication, and other pain medication only. Women who received medications from any of the categories had about twice the risk of having delayed lactogenesis II (>72 hours) compared to women who received no labor pain medication.[13]

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.[14]

Alternate Drugs to Consider

Bupivacaine, Ropivacaine

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Substance Identification

Substance Name

Lidocaine

CAS Registry Number

137-58-6

Drug Class

Breast Feeding

Lactation

Antiarrhythmics

Local Anesthetics