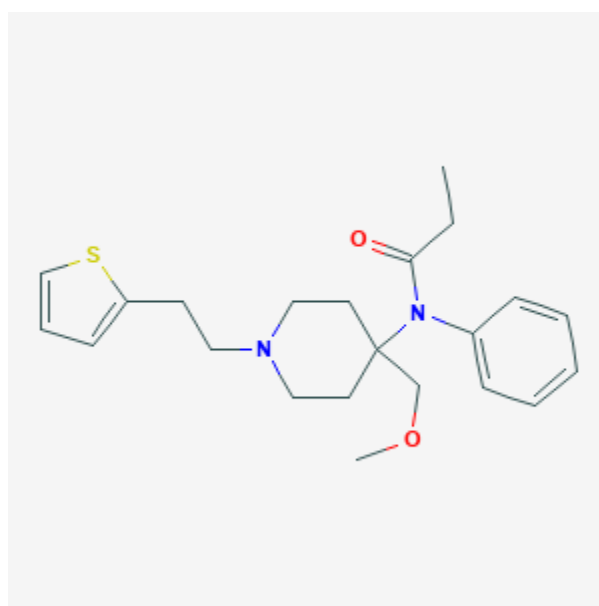




Sufentanil

Revised: December 3, 2018.

CASRN: 56030-54-7



Drug Levels and Effects

Summary of Use during Lactation

When used epidurally or intravenously during labor or for a short time immediately postpartum, amounts of sufentanil ingested by the neonate are small and would not be expected to cause any adverse effects in breastfed infants. Labor pain medication may delay the onset of lactation; however, it appears that with good breastfeeding support, epidural sufentanil plus a local anesthetic has little or no effect on breastfeeding success.[1][2]

Because of sufentanil's long half-life during continued intravenous infusion or repeated intravenous administration,[1] sufentanil levels in milk would be expected to increase if used for an extended period postpartum. Once the mother's milk comes in, it is best to provide pain control with a nonnarcotic analgesic and limit maternal intake of sufentanil to a few days. Because there is no published experience with repeated doses of intravenous or sublingual sufentanil during established lactation, other agents may be preferred, especially while

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nursing a newborn or preterm infant. If the baby shows signs of increased sleepiness (more than usual), difficulty breastfeeding, breathing difficulties, or limpness, a physician should be contacted immediately.

Drug Levels

Sufentanil is metabolized to a minimally active and inactive metabolites. The oral bioavailability of sufentanil is unknown. Therapeutic plasma levels from intravenous sufentanil during surgery in adults are 0.25 to 8 mcg/L. The usual intravenous dosage of sufentanil for anaesthesia in an infant during surgery is 10 to 15 mcg/kg. Lower dosages 0.25 to 1 mcg/kg are used for analgesia. Sufentanil is also commonly administered epidurally. Plasma levels are markedly lower when the epidural route is used.[3]

Maternal Levels. Nine women who had undergone cesarean section received sufentanil 50 mcg epidurally immediately after delivery. Sufentanil was undetectable (<0.1 mcg/L) in colostrum at about 1 hour after the dose. [4]

Twenty-nine women undergoing cesarean section received 20 mcg of epidural sufentanil prior to surgery and were then randomized to receive either an epidural anaesthetic combined with sufentanil 3.75 mcg per hour plus 1.25 mcg every 20 minutes as needed via a patient-controlled epidural analgesia (PCEA) device, or an epidural anaesthetic alone via PCEA with no sufentanil. Breastmilk was sampled on postpartum days 1, 2 and 3. Sufentanil was detected in breastmilk in all groups. Levels were highest in the group receiving postpartum sufentanil via PCEA; however, cumulative sufentanil dosages were not reported. Milk levels were apparently low in the other 2 groups.[5] Reporting errors in this study do not allow for estimation of infant sufentanil dose from milk.

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

Effects in Breastfed Infants

Newborns of breastfeeding mothers who received epidural sufentanil before and after cesarean section delivery were reportedly not clinically affected and had no differences in behavior or clinical signs over 3 days postpartum compared to newborns of mothers who received epidural sufentanil prior to delivery only.[5]

Effects on Lactation and Breastmilk

Narcotics can increase serum prolactin.[6][7] However, the prolactin level in a mother with established lactation may not affect her ability to breastfeed.

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.[8]

A nonrandomized convenience sample of women who did (n = 209) or did not (n = 157) receive epidural analgesia during labor was analyzed to determine whether epidurals affected the onset of lactation. Although not standardized, the typical procedure used sufentanil 10 to 15 mcg together with either ropivacaine 0.1% or levobupivacaine 0.0625% epidurally, supplemented by epidural boluses of ropivacaine 0.1% or levobupivacaine 0.0625% about every 2 hours. No difference was found in the time of lactation onset between the two groups. Although women in both groups stated they wished to breastfeed prior to delivery, exclusive breastfeeding at 20 days postpartum was less frequent in the women who received an epidural (43%) than in women who did not (57%).[9]

In a study in China, women with a scheduled cesarean section were randomized to receive intravenous patient-controlled analgesia with either sufentanil or tramadol. Postpartum prolactin levels were higher in the tramadol group (348 mcg/L) than in the sufentanil group (314 mcg/L). The onset of lactation was sooner in the tramadol group (21.4 hours) than in the sufentanil group (25.1 hours). Both of these difference were statistically significant.[10] Note that injectable tramadol is not available in the U.S.

Alternate Drugs to Consider

Acetaminophen, Butorphanol, Fentanyl, Hydromorphone, Ibuprofen, Morphine

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Substance Identification

Substance Name

Sufentanil

CAS Registry Number

56030-54-7

Drug Class

Breast Feeding

Lactation

Analgesics, Opioid

Narcotics

Anesthetics, Intravenous

Opiates