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Heroin

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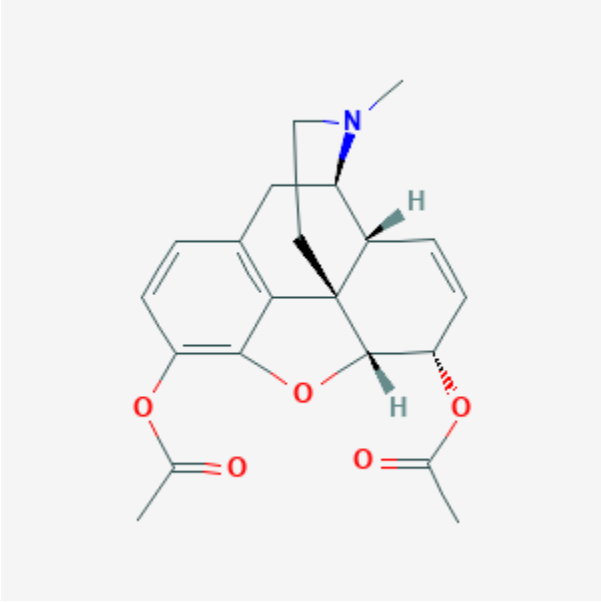

Drug Levels and Effects

Summary of Use during Lactation

Heroin use during breastfeeding has not been systematically studied, but case reports indicate that infants exposed via breastmilk can be affected and develop abstinence if breastmilk is discontinued.[1] Heroin use by breastfeeding mothers can also prevent symptoms of withdrawal in their heroin-exposed breastfed infants.[2][3] Use of heroin as a street drug by nursing mothers carries the risk of breastmilk contamination with a variety of possible chemical contaminants that may be present in illicit heroin. Heroin use by a nursing mother is generally considered to be a contraindication to breastfeeding. Mothers who discontinue heroin use and begin methadone or buprenorphine maintenance therapy should be encouraged to breastfeed with ongoing medical support.[4]

Heroin (diamorphine) by the intrathecal or epidural route is recommended for analgesia during cesarean section and for postoperative analgesia in the United Kingdom where a standardized pharmaceutical product is

commercially available.[5] However, no research on the effect on the breastfed infant or lactation has been published with this use.

Drug Levels

Heroin (diacetylmorphine) is rapidly metabolized in the body to 6-monoacetylmorphine, which is about 6 times more potent than morphine; 6-monoacetylmorphine is further metabolized to morphine. All three drugs contribute to heroin's effects.[6]

Maternal Levels. One heroin-using mother on methadone maintenance treatment had a low concentration of morphine (7 mcg/L) in her breastmilk. The presence of morphine possibly indicated recent use of heroin.[7]

Infant Levels. A 2-month-old breastfed (extent not stated) infant whose mother admitted to using heroin two days prior was admitted to the hospital. The infant's stomach contents and blood were positive for opiates, but results were not quantified.[8]

A 1-month-old infant was brought to the emergency room with respiratory distress. Free and conjugated morphine totaling of 312 mcg/L and codeine 26 mcg/L were found in the infant's urine. Hair analysis of the parents and infant were all positive for morphine, codeine and the heroin metabolite 6-monoacetylmorphine as well as cocaine and its metabolite benzoylecgonine. The authors believed that the infant had been exposed to heroin and cocaine chronically via the placenta, breastmilk and inhalation of smoked heroin and cocaine.[9]

Effects in Breastfed Infants

A paper from 1915 reported a breastfed newborn infant whose mother began using heroin as a snuff for abdominal pain. She continued to use the snuff and became dependent. Her breastfed (extent not stated, but probably nearly exclusive) infant slept excessively, but when awake would curl up with abdominal cramps and cry continuously until breastfed. When the mother was deprived of the drug, the infant would yawn, sneeze, sweat, cry and have cramps in addition to occasional diarrhea. The mother was arrested and the infant was examined by the prison physician. Upon examination, the infant was "pale and flabby looking." with almost colorless lips and pinpoint pupils that did not react to light. The infant slept for most of a day then awoke with sweating and cramps. The infant was treated with camphorated tincture of opium (paregoric) and tincture of nux vomica (containing strychnine) three times daily. After 4 days of therapy, the infant reportedly appeared more cheerful and had no more cramps.[1]

A 2-month-old breastfed (extent not stated) infant presented to the hospital with irritability and a high-pitched cry. He developed hypertonia and opisthotonus and had an increased respiration and heart rate. Laboratory tests revealed a severe metabolic alkalosis. His mother admitted to using heroin 2 days prior to admission for the first time since delivery. The infant's stomach contents and blood were positive for opiates as was the breastmilk and urine of the mother. The infant developed bilateral pulmonary infiltrates and had two positive sweat tests, indicating cystic fibrosis. The authors attributed the infant's metabolic alkalosis to the profuse sweating from heroin withdrawal in the presence of undiagnosed cystic fibrosis.[8]

An 8-year-old girl was brought to a hospital in Iran by her aunt. The girl's mother had used heroin throughout pregnancy and lactation. She continued to breastfeed the child up to the time of admission to prevent heroin withdrawal. The girl had also not been enrolled in school to avoid signs of withdrawal in the child. Both mother and child were treated with buprenorphine for opiate dependence.[3]

A 1-month-old infant was brought to the emergency room with respiratory distress. Cyanosis, fixed and constricted pupils, muscular hypotony and respiratory failure were found on physical examination. Free and conjugated morphine and codeine were found in the infant's urine. Hair analysis of the infant was positive for morphine, codeine and 6-monoacetylmorphine as well as cocaine and its metabolite benzoylecgonine. The

authors believed that the infant had been exposed to heroin and cocaine chronically via the placenta, breastmilk, and inhalation of smoked heroin and cocaine.[9]

Effects on Lactation and Breastmilk

Heroin and morphine can increase serum prolactin.[10][11][12] However, the prolactin level in a mother with established lactation may not affect her ability to breastfeed.

One nursing mother was using heroin as a snuff and had an adequate milk supply. When she switched to using morphine by injection, her milk supply seemed to diminish and she needed to breastfeed more frequently.[1]

The amenorrhea-galactorrhea syndrome with "copious galactorrhea" was reported in 3 heroin-dependent women in their early 20's. Serum prolactin was not measured, but all had hypoestrogenism and low gonadotropin levels.[13]

Alternate Drugs to Consider

(Analgesia) Acetaminophen, Butorphanol, Fentanyl, Hydromorphone, Ibuprofen, Morphine; (Opiate Dependency) Buprenorphine, Methadone, Naltrexone

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Substance Identification

Substance Name

Heroin

CAS Registry Number

561-27-3

Drug Class

Breast Feeding

Lactation

Analgesics, Opioid

Narcotics

Street Drugs