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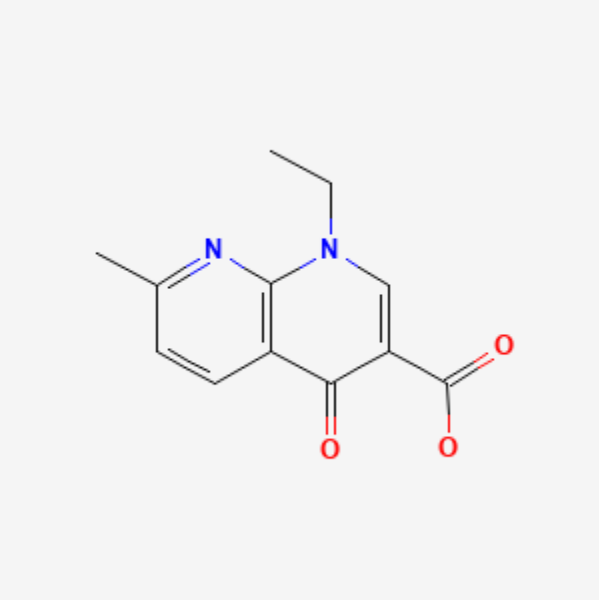
Nalidixic Acid

Revised: August 16, 2021.

CASRN: 389-08-2



Drug Levels and Effects

Summary of Use during Lactation

Limited information indicates that maternal doses of nalidixic acid up to 2 grams daily produce low levels in milk and would usually not be expected to cause any adverse effects in breastfed infants with monitoring of the infant for possible effects on the gastrointestinal flora, such as diarrhea or candidiasis (thrush, diaper rash). Nalidixic acid should be avoided while breastfeeding a glucose-6-phosphate dehydrogenase (G6PD) deficient infant. Other agents are preferred, especially while nursing a newborn or preterm infant.

Drug Levels

Maternal Levels. One paper reported old, unpublished data obtained from the manufacturer in which a breastmilk concentration of 2 mg/L was found at an unspecified time in 4 women taking nalidixic acid 1 gram orally 4 times daily.[1]

Thirteen lactating women were given 2 grams of nalidixic acid as a single dose between the third and eighth day postpartum. The average concentration of nalidixic acid in milk during the first four-hour collection period was 0.64 mg/L (range 0.3 to 1.1 mg/L); concentration in milk from other collection periods were as follows: 0.43 mg/L at 4 to 7 hours; 0.2 mg/L at 7 to 10.5 hours; 0.1 mg/L at 10.5 to 16 hours and 0.02 mg/L at 16 to 24 hours after the dose. Using the peak milk level data from this study, the authors estimated that an exclusively breastfed infant would receive a maximum of 300 mcg daily with this maternal dosage regimen, or less than 0.3% of an infant dose.[2]

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

Effects in Breastfed Infants

Decreased weight gain, pallor, jaundice occurred in a 16-day-old infant probably caused by hemolytic anemia induced by maternal use of nalidixic acid orally 1 gram four times daily and amobarbital 65 mg orally three times daily. The infant developed jaundice, hyperbilirubinemia, reticulocytosis, eosinophilia, Heinz bodies and other signs of hemolysis 7 days after its mother was started on nalidixic acid. No G-6-PD deficiency or hemoglobin Zurich could be demonstrated.[1]

Effects on Lactation and Breastmilk

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

Alternate Drugs to Consider

Ciprofloxacin, Levofloxacin, Nitrofurantoin, Trimethoprim

References

1. Belton EM, Jones RV. Haemolytic anaemia due to nalidixic acid. Lancet 1965;286:691. Letter. PMID: 4158226
2. Traeger A, Peiker G. Excretion of nalidixic acid via mother's milk. Arch Toxicol Suppl. 1980;4:388–90. PubMed PMID: 6933944.

Substance Identification

Substance Name

Nalidixic Acid

CAS Registry Number

389-08-2

Drug Class

Breast Feeding

Lactation

Anti-Infective Agents, Urinary

Antibacterial Agents

Quinolones