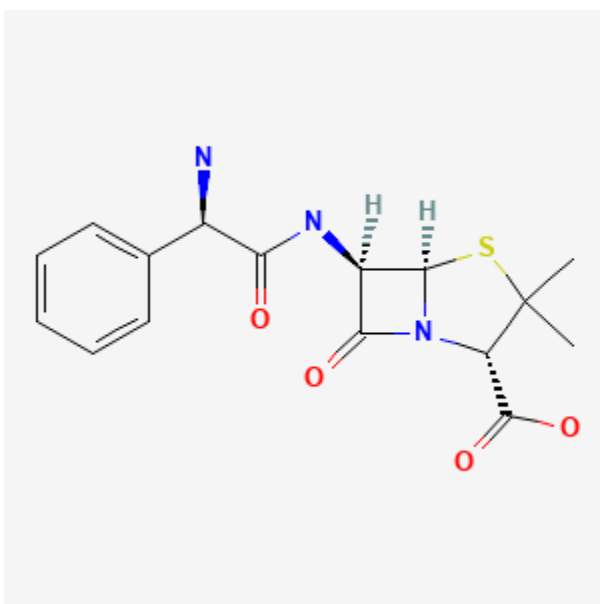




Ampicillin

Revised: June 15, 2024.

CASRN: 69-53-4



Drug Levels and Effects

Summary of Use during Lactation

Substantial information indicates that ampicillin produces low levels in milk that are not expected to cause adverse effects in breastfed infants. Occasionally disruption of the infant's gastrointestinal flora, resulting in diarrhea or thrush have been reported with penicillins, but these effects have not been adequately evaluated. Ampicillin is acceptable in nursing mothers.

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Drug Levels

Maternal Levels. After an ampicillin oral dose of 500 mg every 6 hours for 3 days, milk levels fluctuated little and ranged from 0.575 to 1 mg/L (mean 0.8 mg/L) at various times in one mother and 0.014 mg/L to 0.0675 mg/L (average 0.03 mg/L) in another.[1]

In 10 mothers given ampicillin 1.5 or 2 grams daily by mouth for 3 doses had milk levels ranging from 0.03 to 0.2 mg/L. Another mother receiving 3 grams daily by mouth had milk levels of 0.08 to 0.3 mg/L. In 3 mothers who received 2 grams daily intramuscularly, milk levels ranged from 0.3 to 0.9 mg/L and in 3 mothers who received 4 grams daily intramuscularly had milk levels of 0.4 to 0.9 mg/L. In all cases, peak milk levels occurred 3 hours after the dose. The breastfed infant was estimated to receive from 0.08 to 0.2 mg daily of ampicillin with these doses.[2]

A study in postpartum women with endometritis who received ampicillin 1 or 2 grams infused intravenously over 20 minutes found the average milk levels of ampicillin to be 1.7 mg/L with the highest level observed 3 mg/L.[3]

In 15 women receiving ampicillin 500 mg 4 times daily by intramuscular injection, average milk ampicillin levels were as follows: 0.11 mg/L at 30 minutes after the injection; 0.21 mg/L at 1 hour, 0.17 at 2 hours, 0.27 mg/L at 4 hours and 0.26 mg/L at 6 hours after the injection.[4]

In 13 women with mastitis who received 1 gram of ampicillin orally 4 times daily, the average milk concentrations ranged from 0.6 to 1.05 mg/L.[5]

In 15 women given a single 2 grams dose of ampicillin intravenously, milk levels averaged 1.1 mg/L 2 hours after the dose.[6]

Infant Levels. Thirteen women with mastitis received 1 gram of ampicillin orally 4 times daily. Ampicillin was detectable in the urine in only 2 of 8 of the breastfed infants in whom it was measured.[5]

Effects in Breastfed Infants

An uncontrolled observation of the breastfed infants of mothers taking ampicillin noted a seeming increase in cases of diarrhea and candidiasis that was attributed to ampicillin in breastmilk.[7]

In a prospective follow-up study, 5 nursing mothers reported taking ampicillin (dosage unspecified). One mother reported diarrhea in her infant. No rashes or candidiasis were reported among the exposed infants.[8]

A small, controlled, prospective study had mothers monitor their infants for signs of adverse effects (furring of the tongue, feeding difficulties, changes in stool frequency and consistency, diaper rash, and skin rash). Weight change and the development of jaundice were also recorded. No statistical differences in these parameters were found between the infants of the control mothers and those of mothers taking ampicillin.[9]

Effects on Lactation and Breastmilk

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

References

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Substance Identification

Substance Name

Ampicillin

CAS Registry Number

69-53-4

Drug Class

Breast Feeding

Lactation

Milk, Human

Anti-Infective Agents

Antibacterial Agents

Penicillins