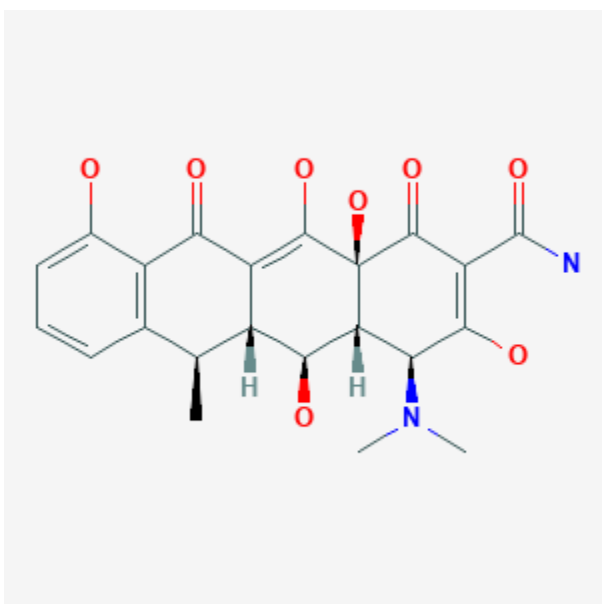




Doxycycline

Revised: October 23, 2019.

CASRN: 564-25-0



Drug Levels and Effects

Summary of Use during Lactation

A number of reviews have stated that tetracyclines are contraindicated during breast feeding because of possible staining of infants' dental enamel or bone deposition of tetracyclines. However, a close examination of available literature indicates that there is not likely to be harm in short-term use of doxycycline during lactation because milk levels are low and absorption by the infant is inhibited by the calcium in breastmilk. Doxycycline use in children <8 years is now considered acceptable in courses up to 21 days. As a theoretical precaution, avoid prolonged (>21 days) or repeat courses during nursing. Monitor the infant for rash and for possible effects on the gastrointestinal flora, such as diarrhea or candidiasis (thrush, diaper rash).

Drug Levels

Maternal Levels. Fifteen mothers nursing infants between 15 and 30 days old were given doxycycline 200 mg orally followed in 12 hours by another dose of 100 mg. Milk doxycycline levels were measured using a biologic assay 3 and 24 hours after the second dose. Milk doxycycline levels averaged 0.77 mg/L (range 0.4 to 1.4 mg/L) 3 hours after the dose and 0.38 mg/L (range 0.12 to 0.85 mg/L) 24 hours after the dose.[1]

A dose of 100 mg daily of doxycycline was given orally to 10 mothers. On the second day of treatment, milk doxycycline averaged 0.82 mg/L (range 0.37 to 1.24 mg/L) 3 hours after the dose, and 0.46 mg/L (range 0.3 to 0.91 mg/L) 24 hours after the dose.[2] Using the average of the peak and trough milk levels in this study, the estimated average intake of an exclusively breastfed infant would be about 6% of the maternal weight-adjusted dosage.

After a single oral dose of 100 mg in 3 women and 200 mg in 3 women, peak milk levels occurred between 2 and 4 hours after the dose. Average peak milk concentrations were 0.96 mg/L after 100 mg and 1.8 mg/L after 200 mg. Milk levels accumulated to about 3.6 mg/L with doses of 100 mg twice daily for 5 days.[3]

Another study found peak milk levels to occur 5 to 7 hours after oral doses of 100 or 200 mg in 13 women in the immediate postpartum period. Peak levels were 0.6 mg/L with the 100 mg dose in 3 women, and averaged 1.1 mg/L in 11 women who received 200 mg.[4]

After single 200 mg dose of doxycycline to 2 women, average milk levels were 0.8 mg/L 2 hours after the dose, 0.7 mg/L 4 hours after the dose, and 0.4 mg/L 6 hours after the dose.[5]

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

Effects in Breastfed Infants

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

Effects on Lactation and Breastmilk

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

Alternate Drugs to Consider

Tetracycline

References

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4. Borderon E, Soutoul JH, et al. *Med Mal Infect*. 1975;5:373–6. [Excretion of antibiotics in human milk].
5. Matsuda S. Transfer of antibiotics into maternal milk. *Biol Res Pregnancy*. 1984;5:57-60.. PubMed PMID: 6743732.
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Substance Identification

Substance Name

Doxycycline

CAS Registry Number

564-25-0

Drug Class

Breast Feeding

Lactation

Anti-Infective Agents

Antibacterial Agents

Tetracyclines