U.S. National Library of Medicine
National Center for Biotechnology Information

NLM Citation: Drugs and Lactation Database (LactMed) [Internet]. Bethesda (MD): National Library of Medicine (US); 2006-. Topiramate. [Updated 2020 Jan 20].
Bookshelf URL: https://www.ncbi.nlm.nih.gov/books/

Topiramate

Revised: January 20, 2020.

CASRN: 97240-79-4

Drug Levels and Effects

Summary of Use during Lactation

Maternal doses of topiramate up to 200 mg daily produce relatively low levels in infant serum, but the number of infants studied is small. Monitor the infant for diarrhea, drowsiness, irritability, adequate weight gain, and developmental milestones, especially in younger, exclusively breastfed infants and when using combinations of anticonvulsant or psychotropic drugs.

Drug Levels

In published reports of anticonvulsant use during breastfeeding, most women were taking a combination of anticonvulsants. Some other anticonvulsants (e.g., phenytoin, carbamazepine) stimulate the metabolism of other drugs including anticonvulsants, whereas others (e.g., valproic acid) inhibit the metabolism of other drugs. Therefore, the relationship of the maternal dosage to the concentration in breastmilk can be quite variable,

Disclaimer: Information presented in this database is not meant as a substitute for professional judgment. You should consult your healthcare provider for breastfeeding advice related to your particular situation. The U.S. government does not warrant or assume any liability or responsibility for the accuracy or completeness of the information on this Site .

making calculation of the weight-adjusted percentage of maternal dosage less meaningful than for other drugs in this database.

Maternal Levels. Three women were taking oral topiramate daily. One taking 150 mg daily had an average milk level of 2.3 mg/L on day 24 postpartum. A mother taking 200 mg daily had average milk levels of 4.8 mg/L on day 20 postpartum and 4.6 mg/L on day 97 postpartum. The third woman who was taking 200 mg daily had average milk level 610 mcg/L on day 14 postpartum and 1.2 mg/L on day 27 postpartum. The authors estimated that the infants received doses between 0.1 and 0.7 mg/kg daily, which was between 3 and 23% of the mother's weight-adjusted dose.[1]

A woman was taking 175 mg of topiramate daily. On day 12 postpartum, her dose was reduced to 150 mg daily and 4 hours after the dose, her milk topiramate concentration was 3.1 mg/L.[2]

A nursing mother was taking 100 mg of topiramate daily. Topiramate was detected in breastmilk at a concentration of 5.3 mg/L at an unspecified time with respect to the dose. The authors estimated that the infant might have received 35% of the maternal weight-adjusted dosage, although their calculation method is unclear.[3] Using the milk level of 5.3 mg/L, the infant would have received 56% of the maternal weight-adjusted dosage.

Infant Levels. Three infants were breastfed from birth while their mothers were taking oral topiramate for epilepsy. Serum levels in a 24-day-old infant whose mother was taking 150 mg daily were about 475 mcg/L. Another infant whose mother was taking 200 mg daily had an average serum level of 594 mcg/L at 20 days of age and 713 mcg/L at 97 days of age. A third infant whose mother was taking 200 mg daily had undetectable (<305 mcg/L) serum levels at 14 and 27 days of age. Overall, their plasma levels were about 10 to 20% of maternal plasma levels.[1] In a preliminary report that added 3 new infants to the original 3 reported had consistent findings. Five of 6 infants had detectable (>305 mcg/L) serum concentrations, but none had quantifiable (>949 mcg/L) serum topiramate concentrations.[4]

A woman was taking 175 mg of topiramate daily. On day 26 postpartum, her breastfed infant had a serum level of 0.8 mg/L at 3 hours after a dose, which was 15% of the mother's simultaneous serum level.[2]

In a multicenter study of nursing mother-infant pairs, 2 infants had blood samples taken at about the same time as maternal blood samples. Neither of the infants had blood levels of topiramate above the lower limit of quantification (1.6 mg/L). The authors estimated the average infant topiramate serum concentration to be 0.8 mg/L, assuming unquantifiable serum concentrations to be 50% of the lower limit of quantification. Median infant blood levels were 17.2% (range 12.4 to 22%) of their mothers' blood levels.[5]

Effects in Breastfed Infants

No adverse effects were observed in 3 infants who were breastfed from birth and observed for at least 24, 27 and 97 days.[1] The authors reported 3 additional breastfed infants who also had no adverse effects.[4]

An exclusively breastfed infant whose mother was taking topiramate 300 mg, levetiracetam 2 g, and valproate 1.8 g daily during pregnancy and lactation appeared healthy to the investigators throughout the 6- to 8-week study period.[6]

One woman breastfed her infant for 13 months while she was taking topiramate for epilepsy. She took a daily dosage of 150 to 175 mg for the first 6 months, then 200 mg daily. At 1 year of age, the infant was developing normally and both parents stated that no side effects such as tiredness had been observed in the infant.[2]

A woman who took topiramate 300 mg daily throughout pregnancy delivered a normal, healthy infant. She reportedly breastfed her infant exclusively for 8 months at which time no adverse drug effects or neurodevelopmental delay were noted by the infant's pediatrician.[7]

The breastfed infant of a mother who was taking 100 mg of topiramate daily developed watery, foamy stools with 8 to 10 bowel movements daily at 40 days of age. The infant's rate of weight gain also declined. Topiramate was detected in breastmilk at a relatively high concentration. Two weeks later, breastfeeding was discontinued. Within 24 hours, the stool frequency declined to 2 to 3 times daily, more solid and the color and odor normalized.[3] Topiramate was the probable cause of the diarrhea in the infant.

Effects on Lactation and Breastmilk

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

References

1. Ohman I, Vitols S, Luef G, et al. Topiramate kinetics during delivery, lactation, and in the neonate: Preliminary observations. Epilepsia. 2002;43:1157–60. PubMed PMID: 12366729.
2. Froscher W, Jurges U. Aktuel Neurol. 2006;33:215–7. [Topiramate used during breast feeding].
3. Westergren T, Hjelmeland K, Kristoffersen B, et al. Probable topiramate-induced diarrhea in a 2-month-old breast-fed child - A case report. Epilepsy Behav Case Rep. 2014;2:22–3. PubMed PMID: 25667861.
4. Ohman I, Luef G, Tomson T. Topiramate kinetics during lactation. Epilepsia. 2007;48 Suppl. 7:156–7Abstract p417. PubMed PMID: 12366729.
5. Birnbaum AK, Meador KJ, Karanam A, et al. Antiepileptic drug exposure in infants of breastfeeding mothers with epilepsy. JAMA Neurol. 2019. PubMed PMID: 31886825.
6. Johannessen SI, Helde G, Brodtkorb E. Levetiracetam concentrations in serum and in breast milk at birth and during lactation. Epilepsia. 2005;46:775–7. PubMed PMID: 15857447.
7. Gentile S. Topiramate in pregnancy and breastfeeding. Clin Drug Investig. 2009;29:139–41. PubMed PMID: 19133709.

Substance Identification

Substance Name

Topiramate

CAS Registry Number

97240-79-4

Drug Class

Breast Feeding

Lactation

Anticonvulsants

Neuroprotective Agents