



Interferon Beta

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CASRN: 145258-61-3; 145155-23-3

Drug Levels and Effects

Summary of Use during Lactation

The levels of interferon beta-1a in breastmilk are minuscule. In addition, because interferon is poorly absorbed orally, it is not likely to reach the bloodstream of the infant. A small number of nursing mothers receiving interferon beta-1a while partially breastfeeding their infants and one woman exclusively breastfed her infant while taking interferon beta-1b and reported no adverse effects. The Multiple Sclerosis Centre of Excellence on Reproduction and Child Health considers interferon beta to be "moderately safe" to use during breastfeeding,[1] and a French consensus group of neurologists concluded that interferon beta can be used during breastfeeding.[2] No special precautions appear to be required during breastfeeding while using interferon beta. Holder pasteurization (62.5 degrees C for 30 minutes) decreases the concentration of endogenous interferon-gamma by an average about 10%.[3]

Drug Levels

Maternal Levels. Six women were receiving interferon beta-1a (Avonex, Biogen) 30 mcg intramuscularly once weekly for multiple sclerosis. Milk samples from both breasts were collected after pumping with an electric breast pump at 8 times after a dose at baseline and at 7 other times during the first 72 hours after a dose. Samples were combined and analyzed for interferon beta-1a. About half of the samples had undetectable (<20 ng/L) amounts of drug. The highest concentrations were found at 1 or 4 hours after the dose in all women. The highest concentration found was 171 ng/L in one woman. Using this value, the authors estimated that the maximum weight-adjusted dosage that an infant would receive is 0.006% of the maternal dose.[4]

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

Effects in Breastfed Infants

Six women had been receiving interferon beta-1a (Avonex, Biogen) 30 mcg intramuscularly once weekly for multiple sclerosis for months to years. None of the mothers noticed any adverse effects in their breastfed infants.[4]

A woman received interferon beta-1b (Betaferon, BayerHealthCare; dosage unspecified) for multiple sclerosis throughout pregnancy. She continued the drug while she exclusively breastfed her infant. At 5 months of age, the infant was monitored regularly by a physician and was developing well with no abnormalities.[5]

One mother received interferon beta-1a for multiple sclerosis during pregnancy and postpartum. All of their infants were exclusively breastfed for 6 months and no noticeable problems were reported in any of them.[6]

In data collected from 4 countries, 17 women received interferon and 41 women received glatiramer during pregnancy and postpartum for treatment of multiple sclerosis. Of these, 63% breastfed (extent not stated) their infants for a mean of 8.8 months. No mention was made of adverse reactions in breastfed infants.[7]

Effects on Lactation and Breastmilk

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

Alternate Drugs to Consider

(Hepatitis C) [Interferon Alfa](#), [Interferon Alfacon-1 \(Multiple Sclerosis\)](#) [Glatiramer](#), [Immune Globulin](#)

References

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4. Hale TW, Siddiqui AA, Baker TE. Transfer of interferon beta-1a into human breastmilk. *Breastfeed Med.* 2012;7:123–5. PubMed PMID: 21988602.
5. Rockhoff M, Hellwig K. *Aktuel Neurol Suppl.* 2012;39 Suppl 1:S49–S51. [10.1055/s-0032-1304879](https://doi.org/10.1055/s-0032-1304879). [Family planning and interferon (beta)-1b - A case report of successful hormonal stimulation, pregnancy and breast-feeding under interferon (beta)-1b]. doi.
6. Hellwig K, Gold R. Glatiramer acetate and interferon-beta throughout gestation and postpartum in women with multiple sclerosis. *J Neurol.* 2011;258:502–3. PubMed PMID: 20878174.
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Substance Identification

Substance Name

Interferon Beta

CAS Registry Number

145258-61-3; 145155-23-3

Drug Class

Breast Feeding

Lactation

Immunologic Adjuvants

Biological Response Modifiers