

Is it safe to breastfeed while taking methylphenidate?

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Abstract

Question My patient has narcolepsy and is currently breastfeeding her 3-month-old infant. Lately she has had difficulties adjusting to caring for her baby, especially staying alert with the demands of breastfeeding. If she starts taking methylphenidate again, should I advise her to switch to formula?

Answer Methylphenidate is excreted in breast milk only in small amounts, and to date there have been no reports of breastfed infants demonstrating any adverse effects. Based on the available data, methylphenidate appears to be compatible with breastfeeding; however, the long-term neurodevelopmental effects have not been adequately studied.

Le méthylphénidate est-il sécuritaire pendant l'allaitement?

Résumé

Question Une de mes patientes souffrant de narcolepsie allaite actuellement son nourrisson de 3 mois. Elle éprouve depuis peu des problèmes d'adaptation à s'occuper de son bébé, surtout à rester vigilante lors des allaitements. Si elle recommence à prendre du méthylphénidate, faudrait-il que je lui conseille de passer au lait maternisé?

Réponse Le méthylphénidate est excrété en petites quantités seulement dans le lait maternel et, jusqu'à présent, il n'y a eu aucun signalement de nourrissons allaités par leur mère qui présentaient des effets indésirables. D'après les données disponibles, le méthylphénidate semble compatible avec l'allaitement maternel; cependant, les effets sur le neurodéveloppement à long terme n'ont pas suffisamment été étudiés.

Methylphenidate is a central nervous system stimulant commonly used for the treatment of attention deficit hyperactivity disorder (ADHD) and narcolepsy.¹

Narcolepsy is a sleep disorder characterized by daytime sleepiness, cataplexy (abrupt loss of muscle tone triggered by an emotion), and abnormal rapid eye movement sleep patterns, while ADHD is marked by symptoms of impulsivity, hyperactivity, and inattention.² Based on the nature of these disorders and the stresses introduced post partum, breastfeeding women with untreated ADHD or narcolepsy might have more than the usual difficulties adjusting to their new roles.^{3,4} For instance, sleep and mood disturbances, which are common in the postpartum period, might exacerbate symptoms of narcolepsy.⁴

The relative infant dose (RID) is calculated using the mother's weight-adjusted dose, the infant's average milk intake, and the drug concentration in the milk. The RID is commonly used to assess the exposure of a breastfeeding infant to a drug. When the RID is less than 10% of the maternal weight-adjusted dose, the medication is generally considered safe in breastfeeding and unlikely to cause adverse reactions in the infant.⁵

There are 6 infants reported to have been breastfed while their mothers were treated with methylphenidate. In all applicable cases the RIDs were less than 1%,⁶⁻⁸ and in 1 case methylphenidate was not detectable in the breast milk.⁹ When serum samples were taken from 4 of the infants studied, methylphenidate levels were considered undetectable at the limit of less than 1 µg/L.^{6,7,9} For 1 mother taking a daily dose of 15 mg, the concentration of methylphenidate in the breast milk was 2.5 µg/L,⁸ whereas in 4 mothers taking higher doses (range 35 to 80 mg/d), the concentrations of methylphenidate in the milk ranged from 15 to 19 µg/L.^{6,7}

Infants who were assessed for age-expected progress were within the reference range,⁶ and no adverse effects were noted in any infants.⁶⁻⁹ One infant was reported to be feeding and sleeping well and gaining weight normally.⁷ Another infant (whose mother received doses of up to 72 mg) was examined up to 1 year of age and no developmental problems were noted.⁹

According to the limited available evidence, methylphenidate is excreted into breast milk in small amounts and appears to be compatible with breastfeeding. Owing

to the theoretical pharmacologic effects, breastfed infants of mothers taking methylphenidate should be monitored for irritability, sleeping difficulties, and poor weight gain.^{10,11} However, in all of the documented cases to date, no adverse effects have been observed. The long-term neurodevelopmental effects have not been adequately studied. 

Competing interests

None declared

References

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MOTHERISK

Motherisk questions are prepared by the Motherisk Team at the Hospital for Sick Children in Toronto, Ont. Dr Marchese is a doctoral graduate of the Leslie Dan Faculty of Pharmacy at the University of Toronto. Dr Koren is the founder and Ms Bozzo is Coordinator of the Motherisk Program..

Do you have questions about the effects of drugs, chemicals, radiation, or infections in women who are pregnant or breastfeeding? We invite you to submit them to the Motherisk Program by fax at 416 813-7562; they will be addressed in future Motherisk Updates. Published Motherisk Updates are available on the *Canadian Family Physician* website (www.cfp.ca) and also on the Motherisk website (www.motherisk.org).

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