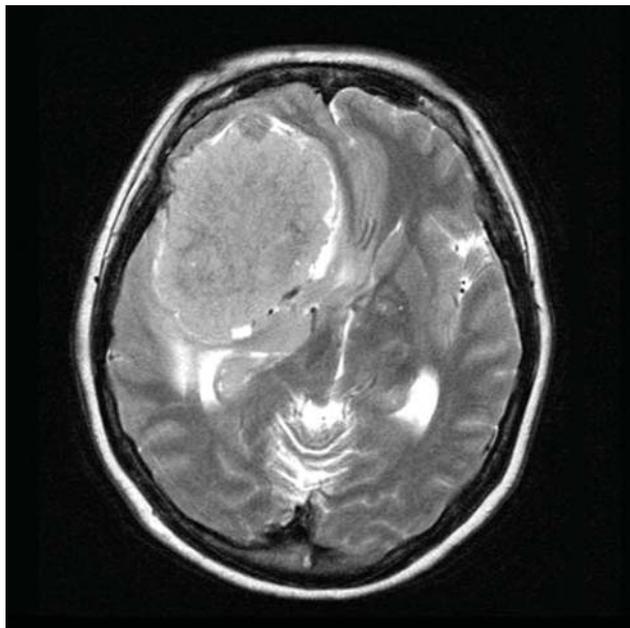


FIGURE 1. T2-Weighted Axial MRI Scan Demonstrating a Large Meningioma With Surrounding Parenchyma Edema Resulting in Ventricular Compression and Midline Shift



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Excretion of Methylphenidate in Breast Milk

TO THE EDITOR: It is unknown to which extent methylphenidate is transferred to breast milk. We therefore present a case of a lactating woman from whom the levels of methylphenidate were measured in serum and breast milk.

A 31-year-old woman with narcolepsy had used methylphenidate regularly before she became pregnant. During pregnancy and the first months postpartum, the drug was discontinued. When she started work after her maternity leave, the need for methylphenidate reappeared. She had a desire to continue breast-feeding, and the question was thus raised as to whether the use of methylphenidate was compatible with breast feeding.

Her daily methylphenidate dose was 5 mg in the morning and 10 mg at noon, using immediate-release tablets (Ritalin, Novartis, Switzerland). After giving written informed consent, maternal serum and breast milk were obtained at the following five points of time: immediately before the morning dose at 8 a.m., just before the dose at noon, and 4, 8, and 21 hours after the dose at noon. The first three samples were from foremilk, whereas the two last samples were from hindmilk. Concentrations of methylphenidate were analyzed by liquid chromatography-

mass spectrometry with a limit of quantification of 0.3 ng/ml.

The maternal serum concentrations in the five samples were <0.3, 2.3, 3.8, 1.7, and <0.3 ng/ml, respectively. The corresponding milk concentrations were <0.3, 2.4, 5.9, 1.4, and <0.3 ng/ml.

Accordingly, in the three samples with measurable concentrations, the mean milk/serum concentration ratio was 1.1, with variations from 0.8 to 1.6. Assuming that the mean milk concentration of 2.5 ng/ml $([0.3+2.4+5.9+1.4] \text{ ng/ml}:4)$ represents the true mean during a 24-hour period and that the infant ingested a standard volume of 150 ml of milk per kilogram of body weight per day, the daily infant dose can be estimated to 0.38 μg per kilogram of body weight. Compared with the maternal daily dose of 234 mg per kilogram of body weight, the infant dose was only 0.16%. This value is far below the 10% notational level of concern for drugs that are not particularly toxic. Three of the samples were foremilk samples, which tend to underestimate the infant exposure to lipid-soluble drugs. However, since the lipophilicity of methylphenidate is low, this factor would not be expected to significantly influence the exposure.

The infant's age was 11 months, and he was only sporadically breastfed. Thus, it was not considered meaningful to measure his methylphenidate plasma concentration, since it would nevertheless not be relevant for the "worst case" scenario—a newborn who is exclusively breastfed. The infant's general health status was excellent, and no possible adverse effects were observed.

Because methylphenidate was not detected in breast milk 20–21 hours after the previous dose, an infant would not be expected to be exposed to methylphenidate if breastfed immediately before the maternal morning dose. This finding is consistent with the short plasma elimination half-life of 2–3 hours. It is, however, important to note that only one patient was studied and that this finding is not necessarily valid in subjects with elimination half-lives that are longer than average, if the last dose is taken in the afternoon, or if a slow-release formulation is used.

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The authors report no competing interests.

Mirtazapine and Breastfeeding: Maternal and Infant Plasma Levels

TO THE EDITOR: Selective serotonin reuptake inhibitors are the most studied antidepressants in breastfeeding mothers (1). However, to date, there is only one case report regarding mirtazapine and breastfeeding (2). This study found no clinically significant levels of mirtazapine in the milk, and serum concentrations in the infant were below therapeutic concentration. Breastmilk levels, assessed 15 and 22 hours postdose, were higher in hindmilk compared with foremilk. A fully breastfed infant would ingest 0.21%–1.02% of the weight-adjusted maternal dose on a daily basis, suggesting minimal exposure of mirtazapine to the infant. However, infants may be exposed to higher levels, since serum mirtazapine concentrations peak at approximately 4 hours postdose. We report the