

# Maternal cocaine use during breastfeeding

Alex M. Cressman MSc Gideon Koren MD FRCPC FACMT Anna Pupco MD Eunji Kim MScCH Shinya Ito MD FRCPC Pina Bozzo

### Abstract

**Question** In my practice several patients have struggled with cocaine abuse during their pregnancies. One woman, now postpartum, wants to breastfeed her infant. Despite being abstinent for the final few months of her pregnancy, I am concerned about the potential adverse effects on her child if she happens to relapse. What is the current evidence about the risks of cocaine exposure during breastfeeding?

**Answer** Given the substantial benefits of breastfeeding for infant health and development, there is no reason for mothers who previously abused cocaine to avoid breastfeeding. It is important for the health care team to counsel patients both on the serious potential risks of cocaine exposure for babies and on the benefits of breastfeeding, to allow for an informed choice. Additionally, attempts should be made to estimate maternal commitment to breastfeeding and discontinuation of cocaine use, and to offer addiction counseling to mitigate the potential risks of infant cocaine exposure. It is paramount to minimize the risk to the infant, which would certainly include mothers ceasing use of cocaine while breastfeeding. For mothers who elect to breastfeed and use cocaine intermittently, breastfeeding should be delayed sufficiently after cocaine use to allow for drug elimination (approximately 24 hours).

## Consommation de cocaïne pendant l'allaitement

### Résumé

**Question** Dans ma pratique, je compte quelques patientes qui étaient aux prises avec une dépendance à la cocaïne durant leur grossesse. L'une d'entre elle, qui vient d'accoucher, veut allaiter son bébé. Malgré son abstinence durant les derniers mois de sa grossesse, je m'inquiète des effets néfastes potentiels si elle récidivait. Quelles sont les données scientifiques actuelles concernant les risques d'une exposition à la cocaïne durant l'allaitement?

**Réponse** Étant donné les bienfaits considérables de l'allaitement maternel pour la santé et le développement des nourrissons, il n'y a pas de raison que les mères qui ont antérieurement abusé de la cocaïne évitent d'allaiter. Il importe que l'équipe de soins de santé conseille les patientes à la fois sur les risques potentiels graves de l'exposition à la cocaïne pour l'enfant et sur les bienfaits de l'allaitement, afin qu'elles fassent un choix éclairé. De plus, il faut tenter d'évaluer à quel point la mère a la volonté d'allaiter et de cesser de consommer de la cocaïne, et offrir du counseling en toxicomanie pour atténuer les risques éventuels d'une exposition du nourrisson à la cocaïne. Il est primordial de diminuer les risques pour le nourrisson, ce qui inclut certainement la cessation par la mère de prendre de la cocaïne pendant qu'elle allaite. Pour les mères qui décident d'allaiter et de consommer de la cocaïne par intermittence, il faut qu'elles attendent suffisamment de temps après en avoir pris pour permettre l'élimination de la drogue (environ 24 heures) avant d'allaiter leur bébé.

Cocaine is a fast-acting and highly addictive central nervous system stimulant that acts on the sympathetic arm of the autonomic nervous system, in addition to the dopaminergic (reward) and other neurotransmitter systems within the brain. It is thought to elicit its rewarding and psychotropic properties via blockade of the transporter responsible for dopamine recovery from the synapse, leading to increased dopaminergic stimulation in critical brain "reward" sites.<sup>1</sup> In this way, cocaine produces both systemic and psychotropic pharmacologic effects, including increased heart rate and blood pressure, improved performance on tasks of vigilance and alertness, and a sense of euphoria, confidence, and well-being.<sup>1</sup> Cocaine is most often abused intranasally, where a portion of the dose is also absorbed

orally following swallowing of mucus; but it can also be smoked and inhaled, or injected. Cocaine use is associated with many substantial health problems, including increased risk of contracting infectious disease, malnourishment, gastrointestinal complications, and acute cardiovascular events (eg, stroke, myocardial infarctions, myocardial arrhythmias), which might affect both maternal and infant health.<sup>2,3</sup>

An estimated 5% to 10% of pregnant women in North America abuse cocaine,<sup>4,5</sup> and some of these women might wish to breastfeed their infants. The benefits of breastfeeding for both baby and mother are numerous and have been established in various studies.<sup>6</sup> These include, but are certainly not limited to, reduction of infant and lifelong morbidity and mortality, enhanced


cognitive function, decreased risk of immunologically mediated diseases, and enhanced maternal-infant bonding.<sup>6</sup> Further, breastfeeding has been shown to have benefits for long-term maternal health, including reduction in the risk of developing cardiovascular disease, diabetes, and breast and ovarian cancers.<sup>6</sup>

Given the advantages of breastfeeding, infants of low socioeconomic status might particularly benefit from being breastfed. This presents a difficult clinical situation. It is paramount for the health care team to balance the risks and benefits—to maximize the potential benefits to the baby from breastfeeding, but to limit the substantial risks from potential infant cocaine exposure.

There are limited reports about the measurement of cocaine in breast milk following maternal intranasal use; however, given its physicochemical properties (pK<sub>a</sub> of approximately 8.6), it is expected that cocaine present in the maternal systemic circulation would pass into the breast milk in meaningful amounts and exhibit a high milk-to-plasma ratio.<sup>7,8</sup> Cocaine present in the breast milk would then be absorbed orally to a limited degree by the breastfeeding infant, as it is typically broken down in the gut, and the infant might be exposed to limited amounts of the drug.<sup>7-9</sup> However, given that the metabolic capacity to metabolize and clear drugs such as cocaine is not fully developed in neonates,<sup>10</sup> exposure to small doses of cocaine could persist and cause considerable harm.

Few reports exist that have examined the effects of cocaine use during breastfeeding on infant outcomes. Reports show substantial variability in the level of cocaine detected in breast milk,<sup>9,11,12</sup> which might represent methodologic issues in cocaine detection, considerable interindividual variability in cocaine pharmacokinetics, or important differences in levels of cocaine use. Sporadic adverse effects, including seizures, hypertension, tachycardia, agitation, and irritability, have been reported in infants after exposure to cocaine by ingestion when applied to the nipple as a local anesthetic<sup>13</sup> and by ingestion via breast milk.<sup>7-9</sup>

Given the important benefits of breastfeeding for infant and maternal health,<sup>6</sup> the Society of Obstetricians and Gynaecologists of Canada recommends that the decision to breastfeed be made on an individual basis after discussing and weighing the benefits of breastfeeding and the potential risks of infant cocaine exposure with the patient.<sup>14</sup> For addicted mothers who elect to breastfeed but continue to use cocaine intermittently, breastfeeding should be delayed sufficiently after cocaine use to allow for drug elimination (approximately 24 hours).<sup>10,15</sup> Topical application of cocaine to the nipples is dangerous and contraindicated during breastfeeding.<sup>15</sup> Furthermore, women who are regular cocaine users should be provided with concurrent addiction counseling,<sup>16</sup> be encouraged to remain abstinent while

nursing, and be provided with sufficient information about the increased risks of adverse neonatal effects (eg, seizures, tachycardia, and irritability). In selected cases cocaine can be measured in milk and, when clinically indicated (eg, suspected adverse effect), also in neonatal blood.<sup>16</sup> Further, because cocaine use has been associated with a higher incidence of HIV infection,<sup>17</sup> and those with HIV infection in developed countries are advised not to breastfeed,<sup>18</sup> it is important to be aware of the serologic status of these women. 

**Competing interests**

None declared

**References**

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Children in Toronto, Ont. Mr Cressman is a medical student at the University of Toronto. Dr Koren is Director and Dr Pupco and Ms Kim are members of the Motherisk Program. Dr Ito is Head of the Division of Clinical Pharmacology and Toxicology at the Hospital for Sick Children and a member of the Motherisk Program. Ms Bozzo is Assistant Director of the Motherisk Program. Dr Koren is supported by the Research Leadership for Better Pharmacotherapy during Pregnancy and Lactation. He holds the Ivey Chair in Molecular Toxicology in the Department of Medicine at the University of Western Ontario in London, Ont.

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