

preparing FM residents for FM practice (like myself) should not be forgotten.

In addition to this initiative by the College of Family Physicians of Canada, please do not forget to let your FM residents, those in their first 5 years in practice, and all Canadian family physicians know about other important practice management resources. There are resources available on the Canadian Medical Association website.³ On this site, there are multiple modules, some similar to those in the initiative, and many more that will help in learning about practice management for FM residents in Canada.

Thank you for reading my comments. Once again, congratulations on such a fine initiative by the College of Family Physicians of Canada.

—Guy R. Blais MD CCFP FCFP
Edmonton, Alta

Competing interests

None declared

References

1. Schipper S. Practice management. Conquering the final frontier of learning. *Can Fam Physician* 2020;66:697 (Eng), 698 (Fr).
2. About Joule [website]. Ottawa, ON: Canadian Medical Association; 2020. Available from: <https://joulecma.ca/about-us>. Accessed 2020 Oct 19.
3. Joule. Practice management curriculum. Ottawa, ON: Canadian Medical Association; 2020. Available from: https://joulecma.ca/learn/practice-management-curriculum?_ga=2.166881470.1849881025.1603130750-329470427.1603130750. Accessed 2020 Oct 19.

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Risks of maternal codeine intake in breastfed infants: a joint statement of retraction from *Canadian Family Physician* and the *Canadian Pharmacists Journal*

This paper is jointly published in *Canadian Family Physician (CFP)* and the *Canadian Pharmacists Journal (CPJ)*.

In late 2006 and early 2007, the *CPJ* and *CFP* published columns from the same authors that described a case of infant mortality caused by opioid overdose from breastfeeding attributed to the mother's status as a rapid metabolizer of codeine to the active morphine metabolite.^{1,2} The original version of this case report was published in 2006 in the *Lancet*.³ This case report has been cited over 600 times since its publication and its findings have had a significant effect on the way that postpartum analgesic medication is prescribed.⁴

In May 2020, Drs Jonathan Zipursky and David Juurlink from the University of Toronto published a paper in the journal *Clinical Pharmacology and Therapeutics* calling into question that newborns can develop opioid toxicity from breastfeeding.⁵ In the paper they reexamined aspects of this case report and strongly argued why such an occurrence is highly implausible.⁵ They concluded that

this explanation is implausible based upon several factors: (1) the exceedingly small amount of opioids

passed into breastmilk irrespective of maternal CYP genotype, (2) the observation that significant neonatal opioid accumulation can only occur in the setting of severely impaired renal function, and (3) the previously unreported finding of a markedly elevated codeine concentration in postmortem blood. Finally, a review of the literature identifies a paucity of convincing reports of neonatal opioid toxicity during breastfeeding, with no other confirmed cases of neonatal death despite the use of these drugs by millions of nursing mothers over the past 2 decades.⁵

Around the time of the publication of this paper, Dr Juurlink contacted us asking that our respective journals retract the columns based on the new evidence that he and Dr Zipursky had brought to light. We reviewed the original *Lancet* case report, the columns, and Drs Zipursky and Juurlink's article and together agreed that there were sufficient concerns about the validity of the case report findings that we invited Dr Koren and his colleagues to respond to the concerns raised by Drs Zipursky and Juurlink, which he did.

Given the complexity of the science, the significance of the case report, and the serious implications of retraction, we sought an independent peer review of the columns and case report; the Zipursky and Juurlink paper; correspondence from the parent of the child; and the responses of Dr Koren and colleagues to the concerns about the case report raised by Drs Zipursky and Juurlink's paper.

We asked 2 international peer reviewers with expertise in pharmacology, pharmacokinetics, and pharmacogenomics to advise us if the case reports met the COPE (Committee on Publication Ethics) criteria for retraction.⁶ We report here that the reviewers independently reached the conclusion that the *CPJ* and *CFP* papers met these criteria. Both reviewers concluded that these columns met the COPE retraction criterion of "clear evidence that the findings are unreliable, either as a result of major error (eg, miscalculation or experimental error)."⁶

One of the reviewers concluded that there were additional grounds for retraction based on ethical concerns that the patient and family could be identified in the report (ie, that insufficient steps were taken to protect their identity).

We agree with the findings of the reviewers and therefore retract the papers:

- Madadi P, Koren G, Cairns J, Chitayat D, Gaedigk A, Leeder JS, et al. Maternal codeine is not safe for all breast-fed infants. *Can Pharm J* (Ott) 2006;139(6):56-60.
- Madadi P, Koren G, Cairns J, Chitayat D, Gaedigk A, Leeder JS, et al. Safety of codeine during breastfeeding. Fatal morphine poisoning in the breastfed neonate of a mother prescribed codeine. *Can Fam Physician* 2007;53:33-5.

—Nicholas Pimlott MD CCFP FCFP
Scientific Editor, Canadian Family Physician

Toronto, Ont

—Ross T. Tsuyuki PharmD MSc FACC FCAHS
Editor, Canadian Pharmacists Journal
Edmonton, Alta

Competing interests

None declared

References

1. Madadi P, Koren G, Cairns J, Chitayat D, Gaedigk A, Leeder JS, et al. Maternal codeine is not safe for all breast-fed infants. *Can Pharm J (Ott)* 2006;139(6):56-60.
2. Madadi P, Koren G, Cairns J, Chitayat D, Gaedigk A, Leeder JS, et al. Safety of codeine during breastfeeding. Fatal morphine poisoning in the breastfed neonate of a mother prescribed codeine. *Can Fam Physician* 2007;53:33-5.
3. Koren G, Cairns J, Chitayat D, Gaedigk A, Leeder JS. Pharmacogenetics of morphine poisoning in a breastfed neonate of a codeine-prescribed mother. *Lancet* 2006;368(9536):704.
4. Badreldin N, Grobman WA, Chang KT, Yee LM. Opioid prescribing patterns among postpartum women. *Am J Obstet Gynecol* 2018;219(1):103.e1-8.
5. Zipursky J, Juurlink DN. The implausibility of neonatal opioid toxicity from breastfeeding. *Clin Pharmacol Ther* 2020;108(5):964-70. Epub 2020 Jun 25.
6. Committee on Publication Ethics. *Retraction guidelines*. Eastleigh, UK: Committee on Publication Ethics; 2019. Available from: <https://publicationethics.org/retraction-guidelines>. Accessed 2020 Aug 31.

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