

The recent Health Canada-endorsed warning about the use of Domperidone was based on two studies^{1,2} published in 2010.

The following KEY points regarding the studies are important to highlight:

- The information in these studies was taken from databases (one in the Netherlands² and one in Saskatchewan¹) and did not demonstrate that Domperidone *caused* any adverse health effects. To show a cause and effect, the studies would have to be, amongst other things, prospective, and these were not. There are many other limitations with these studies. For example, some key pieces of information are unavailable including smoking status, use of other non-prescription drugs, and more, all of which can be important factors¹.
- The average age of the patients in the studies was 72.5 years in one² and 79.4 years in the other¹. Many of the patients in the studies had pre-existing health problems such as high blood pressure, coronary artery disease, and congestive heart failure. Thus the warnings were based on information gathered from an entirely different population than those who take Domperidone for breastfeeding purposes. Results in this age group cannot readily be applied to a younger, healthier population. In fact, in one of the studies¹, the authors concluded that the *risk of a cardiac problem related to taking Domperidone in younger patients* was much *lower* than in older patients. The risk quoted in younger patients was almost the same as that outcome occurring by chance alone. That study also specifies that the *risk in females was significantly lower than in males*. It is also important to highlight that the risk decreased the longer the patient had been on Domperidone.
- The warning regarding use of Domperidone in higher doses was based on only *one* of the studies²; the other study¹ did not include any information about dosing. In the study that included dosing information, out of the 1304 deaths that were studied, only 10 patients were taking Domperidone at the time of death. Of those 10 taking Domperidone, only FOUR patients were documented to be taking higher doses of Domperidone (>30mg per day). *Thus this Health Canada-endorsed dose-related warning came from dosing data compiled from FOUR patients total.*
- Domperidone is generally used to treat gastro-intestinal problems such as acid reflux. Some of the symptoms of acid reflux (eg chest-pain) are similar to symptoms of heart disease. It is possible that some patients were taking Domperidone for what was thought to be a gastro-intestinal problem when, in fact, the symptoms may have been related to a heart problem. While the authors attempted to account for this possibility², it is hard to tease out those taking Domperidone for a gastro-intestinal symptom that was actually a heart condition.
- Furthermore, because Domperidone is available over-the-counter in Europe, it is possible that the number of people self-medicating with Domperidone is higher than the

rate actually quoted in the Dutch study (as the study only took into account prescriptions for Domperidone² and not over-the-counter use). This important fact may have skewed the results.

- Finally, the authors of one of the studies² suggested that “for clinicians, it is important to avoid prescribing Domperidone to patients with a high risk of sudden cardiac death”. They were not cautioning physicians not to prescribe higher doses, but simply to exercise caution in patients considered higher risk.

In summary, breastfeeding mothers using Domperidone are generally younger, healthy females. They do not fall into the same demographics as the patients involved in the studies from which the warnings were generated. Furthermore, with caution about the use of higher doses of Domperidone stemming from a study where so few patients were actually on those higher doses, the Health Canada-endorsed warning regarding the use of Domperidone in higher doses seems to be an over-reaction. Finally, with the other drawbacks of these studies outlined above, there is no evidence that Domperidone actually causes heart problems.

1¹ Johannes CB et al. Risk of serious ventricular arrhythmia and sudden cardiac death in a cohort of users of domperidone: a nested case-control study. *Pharmacoepidemiol Drug Saf.* 2010 Sep; 19(9): 881-888.

2² van Noord C et al. Domperidone and ventricular arrhythmia or sudden cardiac death: a population-based case-control study in the Netherlands. *Drug Saf.* 2010 Nov 1; 33(11): 1003-1014.