LETTER TO THE EDITOR

A cautionary note on the use of intravenous metoclopramide

To the Editor—I am perplexed by Lau et al's article describing circulatory collapse after metoclopramide administration.[1] Although a causative effect was suggested, the dose and rate of administration of the metoclopramide was not mentioned. The proposal that serotonin autoinhibition was a cause of the collapse, based on an animal study[2] done to explain sudden infant death syndrome, is intriguing.

The authors also failed to elaborate on the uncommon but well-documented incidents of intravenous metoclopramide-induced asystole and/or hypotension. Impairment of the autonomic nervous system may be a common predisposing factor. When tested in nine adults with autonomic failure, an intravenous dose of 5 mg of metoclopramide consistently lowered systolic and diastolic blood pressures, starting at a mean of 33 seconds.[3] Withington[4] reported a 54-year-old man who developed complete heart block and asystole that lasted for 25 seconds after receiving 10 mg of metoclopramide post-pancreatectomy. Grenier and Drolet[5] described a 66-year-old woman with diabetes who required external cardiac massage for asystole after receiving 10 mg of metoclopramide post-mastectomy. In a similar case reported by Bentsen and Stubhaug,[6] cardiac arrest was ascribed to the rapid intravenous injection of metoclopramide via the central venous route.

Thus, the report by Lau et al[1] reminds us that intravenous metoclopramide may occasionally cause serious consequences. A slow intravenous infusion over at least 2 minutes may be associated with fewer side-effects.

Anselm CW Lee, MB, BS, FRCPCH
Email: anselm.cw.lee@gmail.com
Children's Haematology and Cancer Centre
ParkwayHealth
Singapore

References

1. Lau KK, Chan KW, Lok CM, et al. Circulatory collapse in a patient with gastrinoma after metoclopramide administration. Hong Kong Med J 2009;15:478-81.
2. Audero E, Coppi E, Minar B, et al. Sporadic autonomic dysregulation and death associated with excessive serotonin autoinhibition. Science 2008;321:130-3.
3. Magnifico F, Pierangeli P, Contin M, Barletta G, Cortelli P. Acute hypotensive effect of metoclopramide in autonomic failure. Clin Auton Res 1998;8:63.
4. Withington DE. Dysrhythmias following intravenous metoclopramide. Intensive Care Med 1986;12:378-9.
5. Grenier Y, Drolet P. Asystolic cardiac arrest: an unusual reaction following iv metoclopramide. Can J Anaesth 2003;50:333-5.
6. Bentsen G, Stubhaug A. Cardiac arrest after intravenous metoclopramide—a case of five repeated injections of metoclopramide causing five episodes of cardiac arrest. Acta Anaesthesiol Scand 2002;46:908-10.