Danendran Krishnan
Yuni Ongso
Marie Leknys

Misoprostol for post-partum haemorrhage in the Australian bush

Keywords
postpartum hemorrhage; misoprostol; rural health

Obstetric haemorrhage, particularly post-partum haemorrhage has been noted to be the third most common direct cause of maternal deaths. According to the Australian Institute of Health and Welfare (AIHW), bleeding contributed up to 14% of maternal deaths caused by obstetric complications between the years 2003 and 2005.[1]

The Royal Australian and New Zealand College of Obstetrics and Gynaecology (RANZCOG) guideline states that the first-line drug of choice for the management of post-partum haemorrhage (PPH) remains parenteral oxytocin. It is followed by ergometrine and prostaglandin F2 in the absence of known contraindications.[2] Misoprostol is currently not recognised as a first-line treatment for PPH as there is no evidence to support its superiority over the oxytocics previously mentioned. However, the RANZCOG guideline does propose that misoprostol may be administered in addition as a second-line agent[2], especially since the approval by the Therapeutic Goods Administration (TGA) in 2012 of the oral or buccal use of misoprostol (in combination with mifepristone) for medical termination of pregnancies up to 49 days gestation.[3]

A meta-analysis conducted by the School of Public Health, University of California, on the use of misoprostol in preventing PPH showed that its efficacy was inferior to oxytocic agents in numerous trials. The risk of PPH was found to be greater by 4% with misoprostol, compared with the other oxytocic agents. Conversely, when compared with placebo, misoprostol seemed to have a functional role in controlling haemorrhage; however, this finding was not statistically significant and the relative risk was 0.85 (95% CI: 0.63, 1.14). The authors concluded that although misoprostol was inferior to oxytocics in the management of PPH, its efficacy over placebo could be very valuable in developing countries where other uterotonic agents were unavailable.[4]

The summary of the meta-analysis was consistent with the World Health Organization (WHO) guidelines for PPH management where use of misoprostol is recommended in the absence of oxytocics, especially in resource-challenged developing countries.[5] Moreover, a joint statement from the International Confederation of Midwives (ICM) and the International Federation of Gynaecologists and Obstetricians (FIGO) concluded that active management of the third stage of labour has been proven to reduce the incidence of PPH and that misoprostol 400–600 µg can be administered orally if injectable oxytocin and ergot alkaloids are not available.[6]

In Australia, between the year 2003 and 2005, the maternal mortality ratio among Aboriginal and Torres Straight Islander patients was 21.5 per 100,000 women, which was a much higher maternal mortality ratio than non-Indigenous patients (7.9 per 100,000 women).[1] Rurality, currently provided by various maternity outreach services, including rural general practitioners, is a fundamental factor in the delivery of standard antenatal and postnatal care in Aboriginal and Torres Strait Islander populations.

Misoprostol has some characteristics that make it amenable to use in rural and remote settings. First, there are no storage difficulties as it is heat stable and can be stored at room temperature. Second, it can be administered orally (600 µg), sublingually (600 µg), vaginally (600–800 µg) or rectally (up to 1000 µg), mitigating the need for intravenous access (dose varies).[4,6] It is acknowledged that the misoprostol has an array of side effects. There is also the potential for abuse, as misoprostol is a well-researched and effective abortifacient.[5] Education, training and regulations on the distribution and use of misoprostol are necessary to optimise its use.

With a growing number of general practitioners practising obstetrics in the Australian bush, it would be imprudent to undermine the use of misoprostol in the absence of other oxytocics. The same would apply to midwives delivering babies in the outback. Regardless of its side effects or efficacy, misoprostol tablets can be easily transported and administered at times of emergency (rectally being a popular route in obstetrics) while waiting for medical retrieval or the administration of parenteral oxytocic agents.

This article is not intended to disregard the supremacy of oxytocic agents in the management of PPH. It is a gentle reminder to all health professionals practising obstetrics in rural and remote locations that administering misoprostol in a woman who is haemorrhaging is significantly better than nothing at all.

Authors

Danendran Krishnan BMedSci, MBBS, Obstetrics and Gynaecology Registrar, King Edward Memorial Hospital for Women, Subiaco, WA. Danendran.Krishnan@health.wa.gov.au

Yuni Ongso MBBS, General Surgery Registrar, Royal Perth Hospital, Perth, WA

Marie Leknys BSc (Biomedical), MBBS (Hons), Obstetrics and Gynaecology Resident, King Edward Memorial Hospital for Women, Perth, WA

Competing interest: None.

Provenance and peer review: Not commissioned, externally peer reviewed.

References

1. Sullivan EA, Hall B, King JF. Maternal deaths in Australia 2003–2005. Maternal Deaths Series No. 3. Cat. no. PER 42. Sydney: AIHW National Perinatal Statistics Unit, 2008.
2. Royal Australian and New Zealand College of Obstetrics and Gynaecology. Management of Post-partum haemorrhage (PPH). Guideline No C-Obs 43. Melbourne: RANZCOG; 2011. Available at www.ranzcog.edu.au/component/docman/doc_download/976-management-of-postpartum-haemorrhage-c-obs-43.html?Itemid=946 [Accessed 19 June 2014].
3. RANZCOG statements and guidelines. The use of misoprotol in obstetrics. Guideline No C-Obs 12. Melbourne: RANZCOG; 2012. Available at www.ranzcog.edu.au/doc/the-use-of-misoprostol-in-obstetrics.html [Accessed 19 June 2014].
4. Langenbach C. Misoprostol in preventing postpartum hemorrhage: a meta-analysis. Int J Gynaecol Obstet 2006;92:10–18.
5. Tang J, Kapp N, Dragoman M, Paula de Souza J. WHO recommendation for misoprostol use for obstetrics and gynaecological indications. Int J Gynaecol Obstet 2013;121:186–89.
6. International Confederation of Midwives and International Federation of Gynaecologists and Obstetricians. Joint statement: management of the third stage of labour to prevent post-partum haemorrhage. J Midwifery Womens Health 2004;49:76–77.

correspondence **afp@racgp.org.au**