

A systematic review on the use of Misoprostol at the time of open myomectomy. (Mini-commentary on BJOG-20-0751.R1)

Peter Jeppson¹

¹University of New Mexico

July 16, 2020

Leiomyomata are common benign pelvic masses that occur in up to 77% of reproductive aged women (Flyckt et al Clin Obstet Gynecol 2017;60(2):252-272). Myomectomies are frequently performed for symptomatic leiomyoma unresponsive to non-surgical treatments and can be performed via laparotomy (open) or minimally invasive approaches. Open myomectomies are often performed because of lack of access to or training with minimally invasive approaches, or secondary to concerns surrounding morcellation.

Misoprostol is a relatively inexpensive readily accessible uterotonic and vasoconstrictive medication. Based on mechanism of action, misoprostol is often used at the time of myomectomy to decrease blood loss. This led Wali et al. (Wali et al BJOG 2020 xxxx) to perform a systematic review on the effectiveness of preoperative misoprostol specifically at the time of open myomectomy. Eight randomized-controlled trials met inclusion criteria and were included in this systematic review with a total of 385 participants, 192 in the misoprostol group 193 in the control group.

These studies provide moderate to high quality evidence on the following six outcomes: 1) estimated blood loss, 2) drop in haemoglobin, 3) need for blood transfusion, 4) operative time, 5) post-operative fever, and 6) length of hospital stay. The specific findings for those six outcomes are as follows. Compared to placebo, misoprostol significantly reduced estimated blood loss by a mean of 170cc with an associated haemoglobin decrease of 0.48 g/dL. Perhaps the most clinically significant finding was that preoperative misoprostol led to a three-fold lower risk of blood transfusion with an odds-ratio of 0.31. The use of preoperative misoprostol also led to a decreased operative time of 11 minutes, which is probably clinically significant based on the relative low expense of misoprostol and relative high cost of time in the operating theater. There was no statistically significant difference in the rates of postoperative fever or length of hospital stay. Patients in the misoprostol group were discharged an average of 3.5 hours earlier than the placebo group which is probably not clinically significant.

Based on the overall risk-benefit profile identified in this study, it would seem that preoperative misoprostol should be recommended for most patients prior to open myomectomy. The findings from this systematic review are particularly important for low-resource settings where access to minimally invasive approaches and the availability of blood for possible transfusion are limited. Although there was variability in the timing and the dose of preoperative misoprostol, Wali et al (Wali et al BJOG 2020 xxxx) suggest the evidence supports a single dose of 400µg of misoprostol 30 to 60 minutes prior to surgery, or two doses 3 hours apart. A protocol of one dose of misoprostol 30 minutes prior to taking a patient to the operating theater could be implemented as part of a standard preoperative order set and administered in the pre-anesthesia care unit. This study highlights a simple, low-cost intervention that can significantly improve patient outcomes.

Disclosure of interest: None to declare. A completed disclosure of interest form is available to view online as supporting information.

Hosted file

A systematic review on the use of Misoprostol at the time of open myomectomy.docx available at <https://authorea.com/users/343191/articles/469832-a-systematic-review-on-the-use-of-misoprostol-at-the-time-of-open-myomectomy-mini-commentary-on-bjog-20-0751-r1>