has no direct therapeutic benefit and is associated with significant morbidity.[3]

Our study aimed to determine whether SLN biopsy could replace full lymphadenectomy for surgical staging and assess the value of lymphadenectomy. We found that SLN biopsy accurately detects lymph node metastases in patients with high-grade EC (pooled detection rates of 91%, pooled sensitivity of 92%, and pooled negative predictive value of 97% per patient). These results were similar to those obtained in other cancer sites (vulva, breast, and skin), where SLN biopsy is a well-accepted standard of care, and suggested that SLN biopsy could replace full lymphadenectomy in patients with high-grade EC.

In their discussion, Levine and Fernandez referenced several studies assessing preoperative use of 3-dimensional ultrasound as a predictive tool for myometrial invasion and cervical involvement in patients with low-grade EC. This approach has been proposed as a means of identifying patients at low risk of nodal involvement, in whom lymphadenectomy could be omitted. Although we agree that such an approach might be beneficial in patients with low-grade EC, its use may be limited in patients with high-grade EC, who are at a much higher risk of nodal metastases. We believe that imaging techniques are unlikely to ever replace surgical staging, which provides histologic confirmation of lymph node status. ∎

Zibi Marchocki, MD
Division of Gynecologic Oncology
Department of Obstetrics and Gynecology
Princess Margaret Cancer Centre
University of Toronto
Toronto, Canada

Maria C. Cusimano, MD, PhD
Department of Obstetrics and Gynecology
University of Toronto
Toronto, Canada

Sarah E. Ferguson, MD
Division of Gynecologic Oncology
Department of Obstetrics and Gynecology
Princess Margaret Cancer Centre
University of Toronto
Toronto, Canada
University Health Network
Sinai Health Systems
700 University Ave., Rm 6-911
Toronto, Canada M5G2M9
Sarah.Ferguson@uhn.ca

REFERENCES
1. Marchocki Z, Cusimano MC, Clarfield L, et al. Sentinel lymph node biopsy in high-grade endometrial cancer: a systematic review and meta-analysis of performance characteristics. Am J Obstet Gynecol 2021;225: 367.e1–39.
2. Amant F, Mirza MR, Koskas M, Creutzberg CL. Cancer of the corpus uteri. Int J Gynaecol Obstet 2018;143(Suppl2):37–50.
3. ASTEC Study Group, Kitchener H, Swart AM, Qian Q, Amos C, Parmar MK. Efficacy of systematic pelvic lymphadenectomy in endometrial cancer (MRC ASTEC trial): a randomised study. Lancet 2009;373: 125–36.

# Physiological approaches to reducing blood loss during cesarean delivery

Check for updates

**TO THE EDITORS:** Jaffer et al[1] highlight the pharmacologic agents that prevent postpartum hemorrhage during cesarean delivery. However, there may be preceding physiological mechanisms that can help to reduce blood loss during elective procedures. Taking a few extra seconds during delivery may be beneficial as follows:

1. After exposing the fetal membranes, a 3-5 mm incision permits controlled decompression of the uterus for 30 seconds.
2. Delivery of the fetal head along with more amniotic fluid further decompresses the uterus.
3. At 60 seconds after rupture of the membranes, delivery will be assisted by spontaneous uterine contraction.
4. A further 60 seconds allows for delayed cord clamping, and the separated placenta can be delivered by controlled cord traction.

"Slow" decompression of the uterus reduces the "stretch" of the amniotic membranes, including the recently described layer of purinergic P2X3 "stretch" receptors in the maternal chorion (Figure), whose activation may enable depolarization and contraction of the myometrium.[2] Slow decompression of the uterus may provide time for "purinergic mechanosensory transduction" to convert the mechanical stimulus ("loss of stretch") into spontaneous uterine activity to assist with delivery and hemostasis.[3,4] Rapid delivery of the neonate may not allow time for these physiological processes and may

**FIGURE**
**Layers of purinergic P2X3 "stretch" receptors**
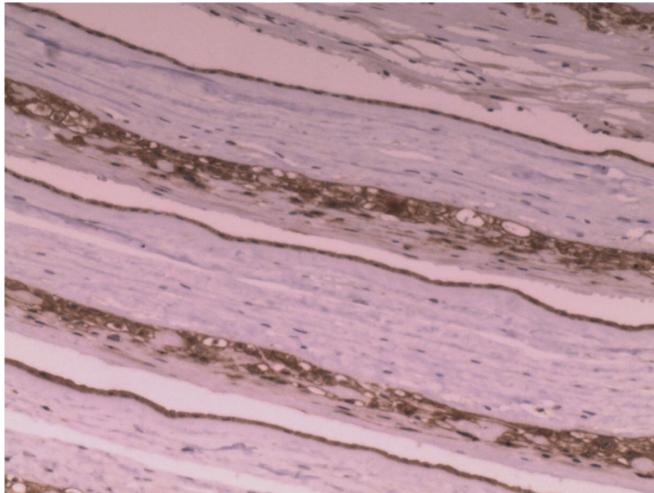


Layers of purinergic P2X3 "stretch" receptors (thick *brown* layers) in the chorion rolled up on a plastic rod, fixed in formalin, and stained with anti-P2X3 (x200). The amnion contains an adjacent layer of aquaporins (AQP-1) that may contribute to the onset of labor through similar process of purinergic mechanosensory transduction.

*Quinn. Reducing blood loss at elective Cesarean delivery. Am J Obstet Gynecol 2022.*

require further pharmacologic support to control any postpartum hemorrhage. ∎

M. J. Quinn, MD, LLM
Department of Obstetrics and Gynecology
International Peace Maternity and Child Health Hospital
Shanghai Jiao Tong University
910 Hengshan Rd.
Xujiahui, Shanghai
China 200030
mjquinn001@icloud.com

**REFERENCES**
**1.** Jaffer D, Singh PM, Aslam A, Cahill AG, Palanisamy A, Monks DT. Preventing postpartum hemorrhage after cesarean delivery: a network meta-analysis of available pharmacologic agents. Am J Obstet Gynecol 2022;226:347–65.
**2.** Zhou ZY, Xu XX, Wu XQ, Quinn MJ. Purinergic, P2X3 positive cells in amniotic membranes. Am J Obstet Gynecol 2019;220:125–6.
**3.** Burnstock G. Purinergic mechanosensory transduction and visceral pain. Mol Pain 2009;5:69.
**4.** Young RC. Mechanotransduction mechanisms for coordinating uterine contractions in human labor. Reproduction 2016;52:R51–61.

# Postsurgical barrier strategies to avoid the recurrence of intrauterine adhesion formation after hysteroscopic adhesiolysis: a comment

**TO THE EDITORS:** In this network meta-analysis (NMA), Vitale et al[1] compared antiadhesive strategies for women undergoing hysteroscopic adhesiolysis followed by mechanical prevention of intrauterine adhesions. The authors used the surface under the cumulative ranking (SUCRA) method to rank the interventions. Based on the SUCRA scores, the study concluded a copper intrauterine device together with an intrauterine balloon (46.4%), hyaluronic acid gel (79.8%), hyaluronic acid gel plus intrauterine device (49.9%), and dried amnion graft (53.8%) ranked the highest for preventing adhesions recurrence, improving fecundity, postsurgical adhesion severity, and menstrual pattern improvement, respectively.[1] However, when considering the limitation of SUCRA, this conclusion might be inappropriate.

It could be very misleading to conclude the effectiveness or harmfulness of treatments by only relying on the SUCRA score but ignoring the certainty of the evidence, as the SUCRA approach only focuses on point estimates of effect.

This approach ignores the possibility that chance can explain the differences between SUCRA scores (precision of estimates), the magnitude of the absolute difference between rankings, and, most importantly, the certainty of the evidence.[2] For example, in 1 NMA of pain treatments for non−low back musculoskeletal injuries, Busse et al[3] reported both the SUCRA and certainty of the evidence. Fentanyl ranked the highest effect for pain relief (<2 hours after treatment) but proved to be low or very low certainty evidence. This means that it is very unsure that the high effect seen for fentanyl is true.

Unfortunately, the authors did not consider the certainty of the evidence for network estimates. Considering the wide confidence intervals for the network estimates in adhesions recurrence (the primary outcome), the certainty of evidence might be low. If the authors used the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) contextualized framework to rank the treatments,[4]