ISSN: 1607-8322, e-ISSN: 2220-5799 Anaesthesia, Pain & Intensive Care
Vol 30(3); March 2026 DOI: 10.35975/apic.v30i3.3186

SHORT COMMUNICATION REGIONAL ANESTHESIA

Paracervical block with lignocaine: an underutilized adjunct to enhanced recovery in laparoscopic hysterectomy and myomectomy

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ABSTRACT

Enhanced Recovery After Surgery (ERAS) protocols are increasingly adopted in all types of surgeries including laparoscopic gynaecological procedures. They are particularly effective in reducing surgical stress, opioid consumption, and hospitalization duration. However, perioperative pelvic and referred back pain remain a significant barrier to early ambulation and discharge. This perspective highlights the potential value of reintroducing paracervical block (PCB) with lignocaine as an underutilized, simple, and effective analgesic technique that complements ERAS goals. Drawing from our institutional experience, PCB has demonstrated a reduction in opioid use, faster mobilization, and improved patient satisfaction with minimal risk. This perspective calls for wider adoption, systematic evaluation, and integration of PCB in laparoscopic gynaecological surgery. Observed benefits were confined to laparoscopic hysterectomy and myomectomy, particularly procedures involving uterine manipulation and colpotomy.

Keywords: Paracervical block; Lignocaine; Enhanced Recovery After Surgery; ERAS; Laparoscopy; Gynaecological surgery; Opioid-sparing analgesia

Citation: Gnanarathne S, Ratnayake A, Isurindi UA. Paracervical block with lignocaine: an underutilized adjunct to enhanced recovery in laparoscopic hysterectomy and myomectomy. Anaesth. pain intensive care 2026;30(3):402-404. **DOI:** 10.35975/apic.v30i3.3186

Received: January 29, 2026; **Accepted:** March 06, 2026

1. INTRODUCTION

Enhanced Recovery After Surgery (ERAS) protocols represent a holistic evidenced based approach that has revolutionized perioperative care .[1] The concept is widely applied in gynaecological surgeries, in both open and laparoscopic procedures. Laparoscopic hysterectomy and myomectomies are commonly performed surgeries with significant implication for women's quality of life. ERAS protocols employ multimodal strategies aimed at minimizing surgical stress, reducing opioid use, and accelerating recovery. In these protocols, both surgical and anaesthetic factors are important. Avoidance of invasive lines and nasogastric tubes, along with early catheter removal facilitate early mobilisation and discharge. Most protocols suggest catheter removal within 12-24 hours for laparoscopic gynaecological surgery (LGS), and catheter-less surgeries are now increasingly being performed in expert hands.[2]

Perioperative pain, particularly deep pelvic and referred back pain associated with laparoscopic surgeries, contributes significantly to delay recovery and increased analgesic requirement.[3] Traditionally port site infiltrations and trans abdominal plane (TAP) blocks are incorporated; however, these predominantly address somatic pain.[4] Visceral pain arising from deep pelvic dissections often necessitates additional systemic analgesia, which may lead to opioid-related complications that hinder adherence to ERAS protocols.

In this context, we highlight the underutilized yet promising role of paracervical block (PCB) with lignocaine as an adjunct for pain control in laparoscopic hysterectomy and myomectomy, where uterine manipulation is a major contributor to visceral pain. PCB, often used in obstetrics and outpatient gynaecological procedures, involves submucosal administration of local anaesthetic lateral and posterior to the uterocervical junction at the level of the uterosacral ligaments.[5] Although no longer routine in intra-abdominal surgeries, emerging evidence and institutional experience suggest that PCB can substantially reduce intraoperative visceral pain and postoperative backache, particularly when uterine manipulators or colpotomy techniques are involved.

2. METHODOLOGY

A retrospective study conducted at Teaching Hospital Peradeniya, Sri Lanka including patients who underwent laparoscopic myomectomy or hysterectomy for benign indications involving uterine manipulation from February to July 2025. Ethical clearance was waived by the Ethics Review Committee of Faculty of Medicine, University of Peradeniya. Demographics, surgical details, outcomes related to PCB, pain, discharge time and urine retention were assessed. In our institution, intraoperative PCB is performed with 10 mL of 1% lignocaine combined with adrenaline on each side following induction of general anaesthesia in patients undergoing LGS, with immediate postoperative catheter removal to facilitate enhanced recovery.

3. RESULTS

Sixty-eight ASA I-II females undergoing LGS were studied. Mean age was 44.23 years (SD 5.13; range 33-49years). Commonest reason for surgery was leiomyoma (53.2%) and adenomyosis (24.1%). Pain scores were low, and only three patients required postoperative opioids. All others were managed with oral paracetamol-codeine combination and celecoxib. No patients developed urine retention. Mean discharge time was 12.3 hours postoperatively.

4. DISCUSSION

Pain in LGS is complex and multifactorial. While somatic pain from port sites is commonly addressed with local infiltration or TAP block, visceral and referred pain, from deep pelvic manipulation and pneumoperitoneum, requires particular attention.[4] PCB addresses this gap by targeting the autonomic innervation of pelvic organs directly. Its usefulness increases in patients intolerant to opioids or at risk of opioid-induced nausea, ileus, or respiratory depression.

PCB targets the paracervical ganglia, interrupting afferent pain transmission from structures frequently manipulated during LGS; cervix, uterus, and upper vagina.[5] The analgesic benefit of PCB in our cohort was observed specifically in laparoscopic hysterectomy and myomectomy. These procedures involve cervical traction, uterine manipulation, and in hysterectomy, colpotomy, all of which contribute significantly to visceral pelvic pain. PCB is therefore most likely to benefit LGS where these components are present. The block is given around the cervix at 3 and 9 o'clock positions, as well as posteriorly at the 4 and 8 o'clock positions. Most published data on PCB comes from outpatient procedures performed in awake patients, where technical difficulty may limit its use. In contrast, performing PCB under general anaesthesia at the beginning of the surgery, simplifies the technique and enhances effectiveness. Lack of requirement for ultrasound guidance, minimal added operation time, and low cost make PCB a practical option in all settings. Moreover, it aligns well with the principles of ERAS, supporting early mobilisation and facilitating early discharge,[1,2] while reducing reliance on urinary catheter.

In our institution, lignocaine is preferred for PCB. Although lignocaine has a shorter duration of action than bupivacaine (half-life 110 vs. 210 minutes), bupivacaine carries a higher risk of cardiac complications if inadvertently injected intravascularly.[6] Lignocaine is therefore safer and is the most suitable agent for enhanced recovery. The addition of adrenaline prolongs its duration through local vasoconstriction. In our study, PCB provided sustained analgesia without postoperative-opioids, particularly in laparoscopic hysterectomy. A possible explanation is that bilateral vascular pedicle ligation reduces venous return, slowing systemic absorption of lignocaine.

Urine retention can occur after LGS, yet there is no evidence to suggest that PCB increases this risk. In our cohort, urinary catheters were removed immediately after surgery, consistent with ERAS principles, and no cases of retention were observed.

A limitation of this study is that findings cannot be extrapolated to all LGS, particularly adnexal or

diagnostic surgeries without uterine manipulation. Further studies are needed to evaluate the role of PCB in other LGS. As ERAS protocols evolve, regional and locoregional techniques such as PCB deserve more attention. We would like to suggest colleagues engaged in anaesthesia and minimally invasive gynaecological surgery to consider evaluating and reporting outcomes of PCB in larger randomized trials. Furthermore, integration into routine training modules would ensure wider adoption and improved patient outcomes.

5. CONCLUSION

PCB with lignocaine represents a simple, effective, and safe strategy to enhance recovery in laparoscopic hysterectomy and myomectomy performed for benign indications. Its adoption within ERAS frameworks can contribute meaningfully in reducing opioid use and improving patient-centred outcomes.

6. Ethical considerations

Ethical clearance was waived by the Ethics Review Committee of Faculty of Medicine, University of Peradeniya, Sri Lanka (protocol no. 2025/EC/72). Since this is a retrospective study consent for participation and publication was not required.

7. Conflicts of interests

The authors declare that they have no conflicts of interest with respect to the research, authorship, and/or publication of this article.

8. Authors contributions

SG: conceptualization, investigation, methodology, project administration, supervision,

AS: conceptualization, data curation, investigation, methodology, project administration, supervision, writing- original draft

UAI: formal analysis, resources, writing- review & editing

9. REFERENCES

1. Jin O, Xu T, Lai J, He J, Wu Y, Yang X. Impact of enhanced recovery after surgery concept process optimization on the perioperative period of gynecologic laparoscopic surgery. BMC Womens Health. 2025 Mar 14;25(1):120. DOI: 10.1186/s12905-025-03626-1. PMID: 40087739; PMCID: PMC11907852.

2. Jimenez JCV, Serrano BT, Muñoz EV, Pérez BS, Jimenez Lopez JS. New surgical realities: implementation of an enhanced recovery after surgery protocol for gynecological laparoscopy-a prospective study. Perioper Med (Lond). 2021 Dec 15;10(1):52. DOI: 10.1186/s13741-021-00221-4. PMID: 34906252; PMCID: PMC8672549.

3. Hirsch M, Tariq L, Duffy JM. Effect of Local Anesthetics on Postoperative Pain in Patients Undergoing Gynecologic Laparoscopy: A Systematic Review and Meta-analysis of Randomized Trials. J Minim Invasive Gynecol. 2021 Oct;28(10):1689-1698. DOI: 10.1016/j.jmig.2021.04.024. Epub 2021 May 12. PMID: 33991671.

4. Grape S, Kirkham KR, Akiki L, Albrecht E. Transversus abdominis plane block versus local anesthetic wound infiltration for optimal analgesia after laparoscopic cholecystectomy: A systematic review and meta-analysis with trial sequential analysis. J Clin Anesth. 2021 Dec;75:110450. DOI: 10.1016/j.jclinane.2021.110450. Epub 2021 Jul 6. PMID: 34243030.

5. Rollins MD, Rosen MA. Obstetric analgesia and anesthesia. InAvery's Diseases of the Newborn 2018 Jan 1 (pp. 170-179). Elsevier.

6. Taylor A, McLeod G. Basic pharmacology of local anaesthetics. BJA Educ. 2020 Feb;20(2):34-41. DOI: 10.1016/j.bjae.2019.10.002. Epub 2019 Dec 4. Erratum in: BJA Educ. 2020 Apr;20(4):140. DOI: 10.1016/j.bjae.2020.02.001. PMID: 33456928; PMCID: PMC7808030.

