Acta Clin Croat (Suppl. 2) 2022; 61:145-150
doi: 10.20471/acc.2022.61.s2.19

Professional Paper

INTERFASCIAL PLANE BLOCKS IN OBSTETRIC AND GYNECOLOGIC SURGERY

Nada Pejčić[1], Radomir Mitić[2], Neeti Sadana[3,4] and Ivan Veličković[4]

[1]Anesthesiologist, Department of Anesthesiology and Reanimatology,Leskovac General Hospital, Leskovac, Serbia
[2]Department of Anesthesiology and Reanimatology, Leskovac General Hospital, Leskovac, Serbia
[3]Director of Obstetric Anesthesia,Memorial Regional Hospital, Envision Physician Services, Hollywood, FL, USA
[4]Director of Obstetric Anesthesia,SUNY Downstate Medical Center, Brooklyn, NY, USA
Implementation of eras protocol for cesarean section

ABSTRACT – Introduction: Interfascial plane blocks (IPB) are truncal blocks with local anesthetic injected into space between two muscle layers. IPBs are easy to learn, simple to perform, provide satisfactory analgesia up to 24 hours, having a minimal risk of complications.

Methods: We present a retrospective analysis of the patients who had IPB as a part of postoperative pain management plan following either CD or hysterectomy in Leskovac General Hospital, Serbia during the period April 2017 – February 2022.

Results: We had 131 patients who had IPB perioperatively. Bilateral QLB type 1 was performed in 53 patients after CD and in 68 patients after hysterectomy. Bilateral ESPB T10-11 was done following one CD case and in 9 patients before hysterectomy. Patients had both acetaminophen and nonsteroidal anti-inflammatory drug for postoperative pain control. Decreased usage of fentanyl and sevoflurane was noticed in the cases where IPB was performed preoperatively. Almost all patients had well-controlled pain, and were very satisfied with pain score of 0-4/10 at numeric rating scale during 24 hours after surgery, with no opioid use. There were no complications regarding block performance.

Conclusion: QLB and ESPB have great potential to improve and facilitate postoperative pain management in obstetric and gynecologic surgery.

Keywords: *quadratus lumborum plane block, QLB, erector spinae plane block, ESPB, Cesarean delivery, hysterectomy*

Introduction

Regional anesthesia/analgesia (RA) techniques are integral to a preemptive analgesia strategy. These techniques prevent the development of persistent postoperative pain.[1]The current guidelines for postoperative nausea and vomiting prophylaxis and treatment[2]also support the usage of RA techniques. Neuraxial anesthesia/analgesia (NA), paravertebral block, peripheral nerve blocks, or interfascial plane blocks (IPB), all support an opioid minimizing approach. NAtechniques are known as the gold standard procedures that provide surgical anesthesia and postoperative analgesia for various surgeries. However, a growing number of patients on anticoagulant therapy limits the use of both NA and paravertebral block in everyday clinical practice. These situations influence the development of alternative analgesic solutions such as IPBs. IPBs are local anesthetic injections into interfacial plane routinely performed under ultrasound guidance. IPBs have become a part of useful skills/tools in a growing number of anesthesiologists. IPBs are truncal blocks with local anesthetic injected into space between two

Corresponding author:
Nada Pejčić, Opšta bolnica Leskovac, Služba anesteziologije sa reanimatologijom, Rade Končara 9, 16000 Leskovac, Srbija; nada.pejcic@gmail.com

muscle layers. IPBs are easy to learn, simple to perform, provide satisfactory analgesia up to 24 hours, having a minimal risk of complications.[3]

The quadratus lumborum block (QLB)[4] and the erector spinae plane block (ESPB)[5] are newly developed ultrasound-guided IPBs that provide good postoperative analgesia following Cesarean delivery (CD)[6-12] and gynecologic procedures.[6,7,11,12] They were not a part of clinical practice in Serbia before April 2017, when QLB was introduced in Leskovac General Hospital (LGH) thanks to the international teaching Kybele Inc. program.[13,14]Their use had started as a part of perioperative multimodal pain management following general surgery cases in adults.[13] Furthermore, QLB and ESPB were included in pain treatment in CD, hysterectomy, urologic, and orthopedic cases, and also in pediatric patients.[15]

Methods

We present a retrospective analysis of the patients who had IPB as a part of postoperative pain management plan following either CD or hysterectomy in LGH during the period April 2017 – February 2022. All CD and hysterectomy cases utilizing either QLB or ESPB were obtained from the anesthesia databases of LGH.

Results:

We had 131 patients who had IPB perioperatively (table 1). Bilateral QLB type 1 was performed in 53 patients after CD. Thirty seven cases were done under general anesthesia (GA), and 16 cases were done under spinal anesthesia (SA). Bilateral QLB type 1 was also performed in 68 patients after hysterectomy (63 cases done under GA, 5 cases done under SA). Bilateral ESPB T10-11 was done following one CD case and in 9 patients before hysterectomy (all cases done under GA). IPBs were performed either in the operating room (before the surgery, or at the end of the surgery during emergence from GA) or in the intensive care unit after recovery from spinal anesthesia.

All patients that had IPB were checked for pain relief immediately after surgery and at several intervals during the first 24 hours postoperatively.

Parturients were healthy, 20 to 40 years old, with no previous medical history. Some of them had in vitro fertilization (IVF) and lowmolecularweightheparin (LMWH) in prophylactic regiment. One of the parturients had IVF, prophylactic regiment of LMWH and preeclampsia with severe features. Since a dose of LMWH has been given 5 hours before urgent CD was indicated, surgery was done under GA. She had ESPB postoperatively in the intensive care unit as a rescue analgesic treatment.

The patients who had hysterectomy were 29 to 84 years old. They were ASA status II or III.

The majority of both CD cases (38/54) and hysterectomy cases (72/77) were done under GA. Anesthesia induction was done using propofol 1.5-2.5 mg/kg. Fentanyl 1-2 mcg/kg was given at induction, and repeated if needed. In CD cases fentanyl was started after childbirth. Sevoflurane in a 50% air / 50% oxygen mixture with an end-tidal of 1-2 vol% was used as the maintenance agent. Rocuronium was used in intubation dose of 0.6 mg/kg and repeated if necessary to maintain a paralysis.

The rest of the cases (16/54 CD and 5/77 hysterectomy) were done under SA provided using 12.5 mg of 0.5% bupivacaine or levobupivacaine in combination with 20 mcg of fentanyl.

Patients had both acetaminophen and nonsteroidal anti-inflammatory drug (NSAID) for postoperative pain control around a clock. The first dose was injected during the last 30 minutes of surgery done under GA or postoperatively, after recovery from SA. All patients had acetaminophen at dose of 1 g Q6H or Q8H. The other analgesic was ketorolac (30 mg

Table 1 Demographic and clinical data.

Procedure	Anesthesia	Patients			QLB	ESPB
		Number	Age#	ASA II /ASAIII		
Hysterectomy	GA	72	51.1	60 / 12	63	9
	SA	5	47.4	4 / 1	5	0
Cesarean Delivery	GA	38	28.7	29 / 9	37	1
	SA	16	27.4	4 / 12	16	0
In total		131	42.4	97 / 34	121	10

GA – general anesthesia; SA – spinal anesthesia; QLB – quadratus lumborum block; ESPB – erector spinae plane block; # mean.

Q6H or Q8H), ketoprofen (100 mg Q6H or Q8H), or metamizole (2.5 g Q12H or Q8H). Tramadol was available as a rescue analgesic.

QLB was done after surgery, during emergence from GA (110 patients), or after recovery from SA (21 patients). ESPB was done preoperatively, before induction of GA in 9 hysterectomy cases. One CD case had ESPB performed after surgery in the ICU. We used 0.25% bupivacaine or levobupivacaine at dose of 20 ml per side for ESPB or 30 ml per side for QLB. All patients had bilateral blocks, so they had 40 or 60 ml of local anesthetic solution in total. Everyone had 4 mg dexamethasone in injected solution. We also used 22-gauge 50, 100 or 150 mm needles for the peripheral nerve block, and the linear ultrasound probe as a guidance.

Decreased usage of fentanyl and sevoflurane was noticed in the cases where IPB was performed preoperatively.

Almost all patients (128/131) had well-controlled pain, and were very satisfied with pain score of 0-4/10 at numeric rating scale (NRS) during 24 hours after surgery, with no opioid use. Only 3 patients (that had QLB after hysterectomy) requested for more analgesics, and needed opioids postoperatively.

There were no complications regarding block performance.

Discussion

QLB is a posterior abdominal wall block that is performed by injecting local anesthetic into the interfascial plane around quadratus lumborum muscle. Although Akerman et al. describe clear sonographic landmarks that allow QLB to be easily performed,[7] El-Boghdadly et al. see QLB as a time-consuming, advanced block that is technically challenging to perform.[16]However, both groups of authors agree that QLB is less invasive, safer and quicker alternative to the epidural technique. We believe that "easiness" of QLB performance depends on the type of QLB that is chosen. At least for our service, QLB type 1 and 2 are easier to perform than QLB type 3.

ESPB was described as a local anesthetic injection into the interfascial plane between the erector spinae muscle (ESM) and transverse process of the vertebra.[5]Depending on the site of local anesthetic injection, ESPB can provide analgesia in the cervical, thoracic, abdominal and lumbar regions. Local anesthetic injection at the level of thoracic vertebra T9-11 will provide satisfying perioperative analgesia following CD and gynecologic surgery.[11]

The mechanism of action of IPBs is still not clear. Radiological imaging in cadavers and live patients confirms that injectate (after both QLB and ESPB performance) spreads extensively in the fascial sheath around the ESM, epidural and paravertebral space resulting in parietal and visceral analgesia.[17-20]Chin et al. suggest that an increased likelihood of local anesthetic penetration to the paravertebral space could be provided by injecting closer to the neuraxial mid-line, choosing ESPB instead of QLB whenever it is possible, and depositing local anesthetic deep to the ESM.[21]Our service prefers ESPB over QLB, except in situations when the patient has to stay in the supine position or has too much pain to turn to lateral or prone position. They also emphasize that intramuscular injection should be avoided by confirming local anesthetic spread between two distinct hyperechoic layers under ultrasound.

QLB attracted anesthesiologists by its great analgesic potential in post-Cesarean pain treatment that Blanco et al. had shown.[22,23] Many randomized controlled trials (RCT), meta-analyses, and trial sequential analyses (TSA) have shown QLB benefits in CD.[8-10,22-28]

A working Group of the European Society of Regional Anaesthesia and Pain Therapy (ESRA) and a working group of the Society for Obstetric Anesthesia and Perinatology (SOAP) published their recommendations for perioperative pain management after CD at the same time (May 2021). Both groups included QLB in their recommendations. It was suggested that multimodal perioperative pain management should be based on intrathecal (or epidural) long-acting opioid (usually morphine) supplemented by scheduled paracetamol and NSAID use. Analgesics should be started in the operating room, before the onset of pain and not upon first pain request. Truncal wall block (the transversus abdominis plane (TAP) or QL) should be provided if neuraxial morphine cannot be given, or as a rescue technique when severe breakthrough pain develops despite the use of neuraxial morphine.[29,30]

TAP block was the first IPB used as postoperative analgesic tool following gynecologic procedures and CD. According to many studies, TAP block has analgesic benefits compared to placebo. However, new data suggest no analgesic benefits if TAP block was used as a part of multimodal postoperative pain management. The TAP block added to combination of paracetamol and NSAID does not improve pain control compared to effects provided by combination of paracetamol and NSAID alone.[31,32]

QLB significantly reduces perioperative opioid use after CD,[8,22-24,26-28,33] laparoscopic hysterectomy (LH),[34-36]and total abdominal hysterectomy (TAH),[37,38] and consequently a frequency of postoperative nausea and vomiting.[35] QLB as a part of multimodal pain management, given in combination with paracetamol and NSAID, also prolongs time to first request for breakthrough pain following CD,[8,22-24,27,33] LH,[34,35,39] and TAH.[38] QLB provides larger filed of analgesia and more lasting analgesia (up to 24-36 hours) compering to TAP block (up to 10 hours) after CD,[23,27,28,33] LH[34,39] and TAH,[37,38] decreasing a number of breakthrough pain requests. Having a skin injection point more lateral of surgical incision than TAP block, QLB minimizes a risk for surgical site contamination. QLB significantly reduces a risk of local anesthetic systemic toxicity (LAST) comparing to TAP block.[34] However; El-Boghdadly et al.[27] concluded in their meta-analysis that QLB was not significantly superior to TAP in multimodal analgesia management after CD. Almost all authors agree that clinical utility of both QLB and TAP block seems limited to situations in which intrathecal morphine is not used.[10,25,27]

RCT had shown that QLB, as a component of multimodal post-caesarean section analgesia, was associated with lower 24-h opioid consumption and longer time to first analgesic request compared to wound infiltration effects.[40]Mieszkowski M et al. show that patients who had QLB in multimodal postoperative management plan were more satisfied than patients who had only paracetamol and NSAID. They also show a tendency for a lower incidence of chronic pain when QLB was provided.[41]

Contrary to abundance of data for QLB use in obstetric and gynecologic surgery, there are only few RCTs and several case series on the use of ESPB for these cases. RCTs showed that ESPB added to paracetamol and NSAID in multimodal perioperative pain management had significant analgesic effects reducing both opioid use and postoperative pain score after CD[42,43] and TAH.[44,45] Furthermore, comparative RCTs shows that ESPB induces more effective pain relief, longer lasting analgesia, and longer time to first rescue analgesic request than TAP block.[42,43,45]

We did not have any IPB-related complications. The complications associated with QLB and ESPB are quite rare. Since needle trajectory and point of injection are far away from peritoneal cavity, visceral abdominal organs, large vessels, and large nerves, QLB performance has not been associated with serious complications (unintentional peritoneal, bowel or kidney puncture). Using the transverse process as a target increases an ease and safety of ESPB performance. The right needle tip position is confirmed by the visual endpoint as a linear spread of injectate in both a cranial and caudal direction from the point of injection. Despite of this Ueshima published unintentional pneumothorax during ESPB performance.[46]Furthermore, the rules of ultrasound-guidance had to be followed. Mandatory monitoring of the needle tip prior to injecting the drug, and drug injection in aliquots of 3-5 ml after negative aspiration test under eye-control significantly increase the level of safety and efficiency of the technique. These rules also decrease a risk of LAST. LAST prophylaxis strategy also includes adequate local anesthetic dosing, adding epinephrine to local anesthetic solution, patient monitoring for 30-45 min after block performance, and "rescue kit" with checklist and 20% lipid emulsion available if LAST is developing.[47]

QLB and ESPB are likely safe in patients with coagulation disorders, and are associated with a much lower risk of nerve damage compared with epidural analgesia and paravertebral blocks. There are no data on neurological damage since the local anesthetic is not injected into the immediate proximity of the large nerve, but is injected into the space rich in small nerve endings. It is therefore generally accepted that QLB and ESPB can be performed both under general and regional anesthesia.[7]

An unwanted quadriceps weakness is cited as a possible complication of QLB 3 and low thoracic or lumbar ESPB.[48,49] Having this in mind, a careful patient ambulation is advisable. We did not have any motor weakness although we did QLB and ESPB in almost 600 cases in LGH since 2017. However, we do not use QLB type 3, only QLB type 1 and 2.

Conclusion

QLB and ESPB have great potential to improve and facilitate postoperative pain management in obstetric and gynecologic surgery.

References:

1. Richebé P, Capdevila X, Rivat C. Persistent Postsurgical Pain: Pathophysiology and Preventative Pharmacologic Considerations. Anesthesiology. 2018;129(3):590-607.
2. Jin Z, Gan TJ, Bergese SD. Prevention and Treatment of Postoperative Nausea and Vomiting (PONV): A Review of Current Recommendations and Emerging Therapies. Ther Clin Risk Manag. 2020;16:1305-1317.
3. Greenhalgh K, Womack J, Marcangelo S. Injectate spread in erector spinae plane block. Anaesthesia. 2019;74(1):126-7.

4. Blanco R. TAP block under ultrasound guidance: the description of a 'non pops technique'. Reg Anesth Pain Med. 2007; 32:130.
5. Forero M, Adhikary SD, Lopez H, Tsui C, Chin KJ. The Erector Spinae Plane Block: A Novel Analgesic Technique in Thoracic Neuropathic Pain. Reg Anesth Pain Med. 2016;41(5):621-7.
6. Pejčić N, Mitić R, Pujić B, Velickovic M, Velickovic I. Quadratus lumborum blok. Serbian Journal of Anesthesia and Intensive Therapy. 2017;39(7-8):187-96. Serbian.
7. Akerman M, Pejčić N, Veličković I. A Review of the Quadratus Lumborum Block and ERAS. Front. Med. 2018;5:44. doi:10.3389/fmed.2018.00044
8. Hansen CK, Dam M, Steingrimsdottir GE, Laier GH, Lebech M, Poulsen TD, et al. Ultrasound-guided transmuscular quadratus lumborum block for elective cesarean section significantly reduces postoperative opioid consumption and prolongs time to first opioid request: a double-blind randomized trial. Reg Anesth Pain Med. 2019; rapm-2019-100540. doi:10.1136/rapm-2019-100540.
9. Hussain N, Brull R, Weaver T, Zhou M, Essandoh M, Abdallah FW. Postoperative Analgesic Effectiveness of Quadratus Lumborum Block for Cesarean Delivery under Spinal Anesthesia. Anesthesiology. 2021;134(1):72-87.
10. Tan HS, Taylor C, Weikel D, Barton K, Habib AS. Quadratus lumborum block for postoperative analgesia after cesarean delivery: A systematic review with meta-analysis and trial-sequential analysis. J Clin Anesth. 2020;67:110003.
11. Pejcic N, Mitic R, Velickovic I. Erector spiane plane blok. Serbian Journal of Anesthesia and Intensive Therapy. 2020;42(3-4):69-81. Serbian.
12. Tulgar S, Selvi O, Senturk O, Serifsoy TE, Thomas DT. Ultrasound-guided Erector Spinae Plane Block: Indications, Complications, and Effects on Acute and Chronic Pain Based on a Single-center Experience.Cureus. 2019; 11(1):e3815.
13. Pejčić N, Mitić R, Veličković I. Quadratus lumborum blok – metod postoperativne analgezije stiže u Srbiju kroz vrata Opšte bolnice Leskovac.. Apollinem medicum et aesculapium. 2017;15(1):16–20. Serbian.
14. Mitić R, Pejčić N, Akerman M, Velickovic I. Erektorspineblok, još jedannoviinterfascijalniblokzapostoperativnuanalgezijuuOpštojbolniciLeskovac.. Apollinem medicum et aesculapium. 2019;17(1):1-5. Serbian.
15. Pejčić N, Mitić R, Nikolić I, Sadana N, Veličković I. Quadratus lumborum block in pediatric patients - a case series. Srpski arhiv za celokupno lekarstvo. 2021;149(7-8):489-93.
16. El-Boghdadly K, Pawa A. The erector spinae plane block: plane and simple. Anaesthesia. 2017;72(4):434-8.
17. Vidal E, Giménez H, Forero M, Fajardo M. Erector spinae plane block: A cadaver study to determine its mechanism of action. Rev Esp Anestesiol Reanim. 2018; 65(9):514-9.
18. Schwartzmann A, Peng P, Maciel MA, Forero M. Mechanism of the erector spinae plane block: insights from a magnetic resonance imaging study. Can J Anaesth. 2018; 65(10):1165-6.
19. Adhikary SD, Bernard S, Lopez H, Chin KJ. Erector Spinae Plane Block Versus Retrolaminar Block: A Magnetic Resonance Imaging and Anatomical Study. Reg Anesth Pain Med. 2018;43(7):756-62.
20. Altinpulluk EY, Ozdilek A, Colakoglu N, Beyoglu CA, Ertas A, Uzel M, et al. Bilateral postoperative ultrasound-guided erector spinae plane block in open abdominal hysterectomy: a case series and cadaveric investigation. Rom J Anaesth Intensive Care. 2019;26(1):83-8.
21. Chin KJ, Adhikary S, Forero M. Is the erector spinae plane (ESP) block a sheath block? A reply. Anaesthesia. 2017;72(7):916-7.
22. Blanco R, Ansari T, Girgis E. Quadratus lumborum block for postoperative pain after caesarean section: a randomised controlled trial. Eur J Anaesthesiol. 2015; 32:812–8.
23. Blanco R, Ansari T, Riad W, Shetty N. Quadratus Lumborum BlockVersus Transversus Abdominis Plane Block for Postoperative Pain After Cesarean Delivery: A Randomized Controlled Trial. Reg Anesth Pain Med. 2016; 41:757–62.
24. Krohg A, Ullensvang K, Rosseland LA, Langesæter E, Sauter AR. The Analgesic Effect of Ultrasound-Guided Quadratus Lumborum Block After Cesarean Delivery: A Randomized Clinical Trial. Anesth Analg. 2018;126(2):559-65.
25. Tamura T, Yokota S, Ando M, Kubo Y, Nishiwaki K. A triple-blinded randomized trial comparing spinal morphine with posterior quadratus lumborum block after cesarean section. Int J Obstet Anesth. 2019;40:32-8.
26. Xu M, Tang Y, Wang J, Yang J. Quadratus lumborum block for postoperative analgesia after cesarean delivery: a systematic review and meta-analysis. Int J Obstet Anesth. 2020;42:87-98.
27. El-Boghdadly K, Desai N, Halpern S, Blake L, Odor PM, Bampoe S, et al. Quadratus lumborum block vs. transversus abdominis plane block for caesarean delivery: a systematic review and network meta-analysis. Anaesthesia. 2021;76(3):393-403.
28. Singh NP, Makkar JK, Borle A, Monks D, Goudra BG, Zorrilla-Vaca A, Singh PM. The analgesic efficacy of quadratus lumborum block in caesarean delivery: a meta-analysis and trial sequential analysis. J Anesth. 2020;34(6):814-24.
29. Roofthooft E, Joshi GP, Rawal N, Van de Velde M; PROSPECT Working Group of the European Society of Regional Anaesthesia and Pain Therapy and supported by the Obstetric Anaesthetists' Association. PROSPECT guideline for elective caesarean section: updated systematic review and procedure-specific postoperative pain management recommendations. Anaesthesia. 2021;76(5):665-80.
30. Bollag L, Lim G, Sultan P, Habib AS, Landau R, Zakowski M, et al. Society for Obstetric Anesthesia and Perinatology: Consensus Statement and Recommendations for Enhanced Recovery After Cesarean. Anesth Analg. 2021;132(5):1362-77.
31. Baeriswyl M, Kirkham KR, Kern C, Albrecht E. The analgesic efficacy of ultrasound-guided transversus abdominis plane block in adult patients: a meta-analysis. Anesth Analg. 2015;121:1640–54.
32. Tran DQ, Bravo D, Leurcharusmee P, Neal JM. Transversus Abdominis Plane Block: A Narrative Review. Anesthesiology. 2019;131(5):1166-90.
33. Wang Y, Wang X, Zhang K. Effects of transversus abdominis plane block versus quadratus lumborum block on postoperative analgesia: a meta-analysis of randomized controlled trials. BMC Anesthesiol. 2020;20(1):103.

34. Murouchi T, Iwasaki S, Yamakage M. Quadratus Lumborum Block: Analgesic Effects and Chronological Ropivacaine Concentrations After Laparoscopic Surgery. Reg Anesth Pain Med. 2016;41(2):146-50.
35. Ishio J, Komasawa N, Kido H, Minami T. Evaluation of ultrasound-guided posterior quadratus lumborum block for postoperative analgesia after laparoscopic gynecologic surgery. JClin Anesth. 2017; 41:1–4.
36. Jadon A, Ahmad A, Sahoo RK, Sinha N, Chakraborty S, Bakshi A. Efficacy of transmuscular quadratus lumborum block in the multimodal regimen for postoperative analgesia after total laparoscopic hysterectomy: A prospective randomised double-blinded study. Indian J Anaesth. 2021;65(5):362-8.
37. Yousef NK. Quadratus Lumborum Block versus Transversus Abdominis Plane Block in Patients Undergoing Total Abdominal Hysterectomy: A Randomized Prospective Controlled Trial. Anesth Essays Res. 2018;12(3):742–747.
38. Naaz S, Kumar R, Ozair E, Sahay N, Asghar A, Jha S, Akhil VP. Ultrasound Guided Quadratus Lumborum Block Versus Transversus Abdominis Plane Block for Post-operative Analgesia in Patients Undergoing Total Abdominal Hysterectomy. Turk J Anaesthesiol Reanim. 2021;49(5):357-64.
39. Huang L, Zheng L, Zhang J, Zhu X, Pan L, Zhang Y, et al. Transmuscular quadratus lumborum block versus oblique subcostal transversus abdominis plane block for analgesia in laparoscopic hysterectomy: a randomised single-blind trial. BMJ Open. 2021;11(8):e043883.
40. Stopar-Pintaric T, Blajic I, Visic U, Znider M, Plesnicar A, Vlassakov K, et al. Posteromedial quadratus lumborum block versus wound infiltration after caesarean section: A randomised, double-blind, controlled study. Eur J Anaesthesiol. 2021;38(Suppl 2):S138-44.
41. Mieszkowski M, Janiak M, Borys M, Radkowski P, Mieszkowska M, Zhalniarovich Y, Onichimowski D. Effect of Bilateral Quadratus Lumborum Block Type I on Patient Satisfaction and Incidence of Chronic Postsurgical Pain Following Cesarean Section-A Randomized Controlled Trial. Int J Environ Res Public Health. 2021;18(17):9138.
42. Malawat A, Verma K, Jethava D, Jethava DD. Erector spinae plane block and transversus abdominis plane block for postoperative analgesia in cesarean section: A prospective randomized comparative study. J Anaesthesiol Clin Pharmacol. 2020;36(2):201-6.
43. Boules ML, Goda AS, Abdelhady MA, Abu El-Nour Abd El-Azeem SA, Hamed MA. Comparison of Analgesic Effect Between Erector Spinae Plane Block and Transversus Abdominis Plane Block After Elective Cesarean Section: A Prospective Randomized Single-Blind Controlled Study. J Pain Res. 2020;13:1073-80.
44. Hamed MA, Goda AS, Basiony MM, Fargaly OS, Abdelhady MA. Erector spinae plane block for postoperative analgesia in patients undergoing total abdominal hysterectomy: a randomized controlled study original study. J Pain Res. 2019;12:1393-8.
45. Kamel AAF, Amin OAI, Ibrahem MAM. Bilateral Ultrasound-Guided Erector Spinae Plane Block Versus Transversus Abdominis Plane Block on Postoperative Analgesia after Total Abdominal Hysterectomy. Pain Physician. 2020;23(4):375-82.
46. Ueshima H. Pneumothorax after the erector spinae plane block. Journal of Clinical Anesthesia. 2018;48:12.
47. El-Boghdadly K, Pawa A, Chin KJ. Local anesthetic systemic toxicity: current perspectives. Local Reg Anesth. 2018;11:35–44.
48. Wikner M. Unexpected motor weakness following quadratus lumborum block for gynaecological laparascopy. Anaesthesia 2017; 72:230–2.
49. Selvi O, Tulgar S. Ultrasound guided erector spinae plane block as a cause of unintended motor block. Rev Esp Anestesiol Reanim. 2018;65(10):589-92.

Sažetak

INTERFASCIJALNI BLOKOVI U PORODNIŠTVU I GINEKOLOŠKOJ KIRURGIJI

N. Pejčić, R. Mitić, N. Sadana i I. Veličković

Uvod: Interfascijalniblokovi (Interfascial plane block, IPB) su blokovi trupa koji se izvode ubrizgavanjem lokalnog anestetika u prostor između dva sloja mišića. Laki su za učenje, jednostavni za izvođenje, omogućuju analgeziju u trajanju do 24 sata.

Metode: Ovo je retrospektivna analiza pacijentica koje su perioperativno dobile IPB, a bile podvrgnute carskom rezu ili histerektomiji u Općoj bolnici Leskovac (Srbija) tijekom perioda travnja 2017 – veljače 2022.

Rezultati: IPB perioperativno dobila je ukupno 131 pacijentica. Bilateralni kvadratus lumborum blok (quadratus lumborum blok, QLB) izveden je kod 53 pacijentice nakon carskogreza, i kod 68 pacijentica nakon histerektomije. Bilateralni erektor spine blok (erector spinae plane block, ESPB) T10-11 izveden je kod jedne pacijentice nakon carskog reza i kod 9 pacijentica neposredno prije histerektomije. Za postoperativnu kontrolu bola korišteni su paracetamol i nesteroidni antiupalni lijekovi. Smanjena upotreba fentanila i sevoflurana zabilježena je kod osoba koje su blok dobile preoperativno. Gotovo sve pacijentice su bile zadovoljne ostvarenom kontrolom bola nakon bloka, sa skorom 0-4/10 nanumeričkoj skali bola tijekom prva 24 sata postoperativno. Nije bilo postoperativne upotrebe opioida, niti komplikacija vezanih za izvođenje IPB.

Zaključak: QLB i ESPB imaju odličan potencijal da unaprijede i olakšaju postoperativnu terapiju bola u opstetričkoj i ginekološkoj kirurgiji.

Ključne riječi: *Quadratus lumborum blok, QLB, erector spine blok, ESPB, carski rez, histerektomija*