



EFFICACY OF QUADRATUS LUMBORUM BLOCK FOR INTRA-OPERATIVE AND POST-OPERATIVE ANALGESIA IN LOWER ABDOMINAL SURGERIES: A CASE SERIES

Anaesthesiology

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ABSTRACT

Background: Enhanced recovery after surgery (ERAS) protocols aim to promote postoperative organ function and reduce the stress response associated with surgical trauma, facilitating faster recovery. Opioids, commonly used for postoperative analgesia, are associated with numerous side effects, including sedation, dizziness, nausea, and respiratory depression. Thus, alternative analgesic approaches are necessary to mitigate these effects. The ultrasound-guided quadratus lumborum (QL) block is a novel regional anesthesia technique gaining popularity for its potential benefits in lower abdominal surgeries. **Objective:** This case series evaluates the utility of ultrasound-guided quadratus lumborum block in providing intraoperative and postoperative analgesia for patients undergoing lower abdominal surgeries under general anesthesia, aiming to reduce the need for opioids and their associated side effects. **Methods:** Five patients scheduled for lower abdominal surgeries under general anesthesia were included in this case series. The quadratus lumborum block was administered bilaterally with 30 ml of 0.16% bupivacaine on each side, following endotracheal intubation and stabilization of hemodynamics. Vital signs were post operatively was recorded. The incidence of postoperative nausea, vomiting, and other side effects was also noted. **Results:** No complications were observed with the quadratus lumborum block, which was performed by experienced practitioners under ultrasound guidance. None of the patients required opioids in the postoperative period up to 48 hours, and there were no reports of postoperative nausea or vomiting. **Conclusion:** The quadratus lumborum block provided effective perioperative and postoperative analgesia in lower abdominal surgeries, minimizing the need for opioids and reducing associated side effects. Further randomized controlled trials are recommended to validate these findings and establish the broader utility of this technique in pain management for major abdominal surgeries.

KEYWORDS

Quadratus lumborum, Opioids, Analgesia, Lower abdominal surgeries, Complications

INTRODUCTION

Enhanced recovery after surgery is a multimodal perioperative care pathway that promotes preoperative organ function and reduces the stress response generated surgical trauma to achieve speed recovery [1]. Opioids have several side effects such as sedation, dizziness, nausea, vomiting, constipation, physical-dependence, tolerance, pruritis, and respiratory depression [2]. As a result, various approaches are required to control postoperative pain and reduce opioid usage and adverse effects [3]. USG guided quadratus lumborum is a newer evolving block which is gaining popularity in regional anaesthesia field for its various benefits in variety of major surgeries. The evidence regarding its utility is still evolving but has shown reduced analgesic requirements for lower abdominal surgeries, hip surgeries. [5, 6]

Aim and Objectives

The case series is done to see the utility of USG guided quadratus lumborum block in intra - operative and post operative analgesia in patients undergoing lower abdominal surgeries under general anaesthesia to avoid side effects of other analgesics.

Case No	Age & Sex	Diagnosis	Co- Morbidities	Complications	VAS at 6,12,18,24 hours	Discharge on POD	Follow up complications at 1 month
1.	54/M	Cholelithiasis	Type 2 DM	None	0,1,1,2	3	None
2.	47/M	Inguinal hernia	HTN	None	0,1,1,1	3	None
3.	46/F	Para -umbilical hernia	HTN	None	1,1,2,3	3	None
4.	45/F	Supra - umbilical hernia	None	None	1,1,1,2	3	None
5.	27/F	LSCS	None	None	1,1,2,2	5	None

DISCUSSION

There was no complication of QLB in our case series. As the block was given by experts under USG guidance and intramuscular approach was used in this case series. There was no requirement of opioids in post-op period in any of these patients until 48 hrs post op. There was no incidence of post-op nausea and vomiting in any of these patients in this case series. The analgesic efficacy and longer-lasting effect of QL block have been attributed to the spread of local anaesthetic (LA) to thoracic paravertebral and epidural space, providing additional sympatholytic effect in the thoracolumbar fascia (TLF), which can provide visceral pain relief. [4] Kroh et al (40 elective C section patients, 20 per group) [5]. BL USG guided lateral QL block (0.4 ml/kg 0.2% ropivacaine vs sham injection of saline. The cumulative ketobemidone consumption in 24 hrs was significantly less ($p < 0.44$). The effective analgesic scores were significantly better in the treatment group compared with the placebo group both at rest ($p < 0.1$)

MATERIALS AND METHODS

Total 5 patients were included in this case series who were scheduled for various lower abdominal surgeries under GA with ASA grading 1/2. A detailed history, clinical examination and investigations were carried out for each patient. Blocks were performed under all aseptic precautions using an ultrasound machine using high frequency linear probe covered with a sterile sheath and a sonoopaque needle. Block was given bilaterally, 30 ml each side using injection bupivacaine 0.16% putting the patient in lateral position after identifying anatomically the erector spinae, psoas major and quadratus lumborum muscle. Continuous vital monitoring was carried out through out the surgery After emergence from anaesthesia and achieving an appropriate conscious level, patients were being discharged from OT to ICU/ward, requirement of total dose of analgesia was recorded for next 24 hours. When VAS score > 3 analgesic dose given according to protocol. The number of patients requiring analgesia in < 24 hours, the side effects of block, incidence of post operative nausea, vomiting also noted

RESULTS

VAS at 6,12,18,24 hours	Discharge on POD	Follow up complications at 1 month
0,1,1,2	3	None
0,1,1,1	3	None
1,1,2,3	3	None
1,1,1,2	3	None
1,1,2,2	5	None

and during coughing ($p < 0.1$). Blanco et al – 48 LSCS patients [6]. BL USG guided posterior QL block (0.2 ml /kg 0.125% bupivacaine vs sham injection of NS. Significantly lower rest pain/ dynamic pain scores upto 48 hrs post – op. Significantly lower morphine use at 6 hrs and 12 hrs

CONCLUSION

Thus from this case series we can conclude that quadratus lumborum block can provide adequate amount of perioperative as well as post operative analgesia for various lower abdominal surgeries due to consistent dermatomal coverage of surgical site. Still further evidence is warranted and randomised control studies should be much helpful to establish its dynamic utility in case of pain management in patients undergoing major abdominal surgeries.

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