



BILATERAL ERECTOR SPINAE BLOCK FOR POST-OPERATIVE ANALGESIA IN ABDOMINAL SURGERY: CASE REPORT

Dr Jishmi Shah

Assistant Professor, Pramukh Swami medical College, Karamsad.

Dr Kulin Shrimali*

Senior Resident, GMERS Medical College, Sola, Ahmedabad. *Corresponding Author

ABSTRACT The opioid epidemic and its side effects have led anaesthesiologists to find a way of decreasing use of opioids, which has led to popularity of regional anesthesia for post operative analgesia. The ultrasound-guided erector spinae plane block (ESPB) is a newer technique of interfascial plane block in which local anaesthetic is deposited in the fascial plane deep to the erector spinae muscle.¹ ESPB may be a good alternative to other invasive techniques like epidural analgesia and para vertebral blocks in the postoperative period following abdominal surgeries. This case report aims to emphasize efficacy of ESPB for post operative analgesia in Laparotomy. **Method:** 50 years old female patient known case of carcinoma ovary and posted for de-bulking surgery was given bilateral erector spinae block at T5-T6 level under ultrasound guidance with 10 cc of 0.25% bupivacaine+10 cc of 2% lignocaine-adrenaline+ 1cc dexamethasone on each side. **Result:** Patient was totally pain free in the first 24hrs postoperatively and experienced only mild pain with VAS score of 1-2 after 24 hours which was managed with NSAIDS. **Conclusion:** Erector spinae block provides adequate and prolonged analgesia after abdominal surgeries obviating the complications related to epidural analgesia or opioids.

KEYWORDS : ERECTOR SPINAE BLOCK, POST OPERATIVE ANALGESIA, ABDOMINAL SURGERY

INTRODUCTION

Management of acute post-operative pain has received attention in recent times with considerable advancement in the field.² Despite this, post-operative pain continues to be a challenge and often inadequately treated, leading to patient stress and anxiety.²

Major abdominal surgeries with large incisions leads to severe abdominal pain, which if treated inadequately, can cause atelectasis, shallow breathing, lack of co-operation in physiotherapy and retention of secretions.³ This leads to delayed recovery and increase in the incidence of post-operative morbidity.²

This case report aims to emphasize efficacy of bilateral erector spine block for post operative analgesia in a 50 year old female patient, known case of carcinoma ovary posted for De-bulking surgery.

CASE REPORT

A 50-year-old female, known case of carcinoma ovary was scheduled for interval de-bulking surgery. A single-shot ultrasound-guided bilateral ESP block was given for postoperative analgesia after completion of surgery. Anesthesia was induced with sevoflurane and, prior to the incision, intravenous fentanyl 1.5 mcg/kg, paracetamol 15 mg/kg, and dexamethasone 8.0 mg were given. The surgery lasted for two and half hours. Half an hour before extubation, Inj Diclofenac 1.5 mg/kg was given intravenously.

Prior to emergence and with patient still in a lateral position, an ESP block was performed at the level of the T5-T6 transverse process using a linear-array transducer placed in a parasagittal plane 2-3 cm from the posterior midline. A 23 G needle was inserted out of plane under real-time USG guidance. Correct needle tip location was confirmed by injecting 0.5 – 1 ml of saline and visualizing the linear LA spread (i.e., hydrodissection) in the fascial plane between the erector spinae muscle and the transverse process. A total of 21 mL of LA (10 ml of 0.25% bupivacaine+10 ml 2% lignocaine-adrenaline +1 cc (4 mg) dexamethasone was injected on each side that was seen on ultrasonography to spread craniocaudally at the level of T5-T6.

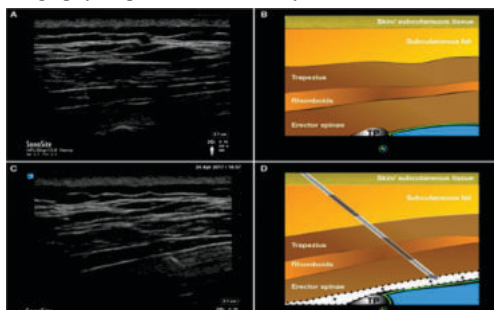


Image 1: Demonstration Of USG Guided Erector Spinae Block

Post-operative Follow-up For Pain/ Result

Following extubation and transfer to the post-anesthetic care unit (PACU), the patient was noted to have VISUAL ANALOGUE SCALE (VAS) of 1 [scores range from 0(no pain) to 10 (greatest pain)], consistent with ONLY mild pain. Systemic multimodal analgesia was initiated with injection of paracetamol and diclofenac.

Pain was assessed every four hours using the VAS. The patient continued to report only mild pain (VAS 0-1) at the surgical site up to 24 hours after surgery. When patient complained of more pain, (VAS 1-2) between 24-72 hours which was successfully treated with injection diclofenac and paracetamol. Patient didn't require any rescue analgesia in form of opioid or tramadol.

DISCUSSION

Opioids are the mainstay of the treatment for post operative analgesia so far for severe pain after laparotomy, but the opioid epidemic and its side effects led anaesthesiologists to find a way of decreasing use of opioids, which has led to popularity of regional anesthesia for post operative pain.

Other regional techniques like thoracic epidural, quadratus lumborum block (QLB), rectus sheath block and transverse abdominis plane (TAP) block are also included in the armamentarium for postoperative analgesia in abdominal surgery.³

TAP block blocks the lateral cutaneous branches, so the analgesia is only limited to anteolateral part. It usually achieves a dermatomal block below T7 whereas the ESP block can cover any level.³

QLB is more invasive than ESPB and may result in motor weakness which affects early ambulation.⁴

The ESP block is a simpler, safer alternative to paravertebral block or thoracic epidural because the target is easily visualized by ultrasonography, and the injection site is away from the neuraxis, pleura and vascular structures.¹ Moreover, Thoracic epidural has side effects e.g. hemodynamic instability, headache or nerve damage.

Simplicity to perform, comparative safety of the technique to paravertebral blocks (aiming on bone structure and not towards paravertebral space near the pleura) effective analgesia and spread on several neurotomes.

In addition, the fascial plane underlying the erector spinae muscle allows multi-dermatomal coverage with a single injection.¹ Its analgesic effect appears due to LA diffusion into the paravertebral space, affecting both the dorsal and ventral rami of the thoracic spinal nerves, as well as the rami communicantes which supply the sympathetic chain.¹

Epidural analgesia with local analgesic is the gold standard for

postoperative analgesia however; we want to avoid side effects related to it and prefer a comparatively less invasive technique. So we preferred ESPB over other techniques for post-operative analgesia.

CONCLUSION

Thus, USG guided erector spinae block is simple and safe technique which provides prolonged analgesia in post operative period following abdominal surgery obviating use of more invasive technique like epidural analgesia and opioids.

ESPB may be a good alternative to other modalities of analgesia following abdominal surgeries.

REFERENCES

1. Felipe Munˆoz, MD, Javier Cubillos, MD; Antonio J. Bonilla, MD Erector spinae plane block for postoperative analgesia in pediatric oncological thoracic surgery Can J Anesth/J Can Anesth (2017) 64:880–882.
2. Aliya Ahmed, Naveed Latif, Robyna Khan; Post-operative analgesia for major abdominal surgery and its effectiveness in a tertiary care hospital; Journal of Anaesthesiology Clinical Pharmacology; (2013); Vol 29 (4).
3. Ashok Jadon, Priyanka Jain and Neelam Sinha the Erector Spinae Plane Block for Postoperative Analgesia in Abdomi noplasty - A Case Report. BAOJ Anesthesia (2017) 1: 001.
4. Wikner M; Unexpected motor weakness following quadratuslumborum block for gynaecological laparoscopy. Anaesthesia (2017) 72(2): 230–232.