



## ERECTOR SPINAE BLOCK, A STAND-IN FOR OPIOIDS IN SPINE SURGERY FOR POST-OPERATIVE PAIN RELIEF

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**ABSTRACT** The main aim of spine surgery is to relieve patient of the pain, he/she is perceiving and early mobilization, so that they can perform their day to day activity. But, post-operative pain and use of opioids intra-operatively and postoperatively may cause delay in rehabilitation of the patient and may increase their length of hospital stay. To decrease the quantity of opioids necessary for pain control and early mobilization of patient, we performed Erector spinae block(ESB) in patient undergoing spine surgery and observed for pain relief and opioid consumption.

**KEYWORDS :** Erector spinae block, post-operative pain

As per, American Society of Anesthesiologist, acute pain is described as pain present in a surgical patient after a procedure<sup>1</sup>. To give our patients optimal pain relief and minimize the use of opioids, we administered erector spinae block(ESB) to four patients posted for single level lumbar spine fixation surgery.

Pre-anaesthetic check-up was done day prior to the surgery and on the day of procedure they were administered general anesthesia with, IV fentanyl 2mcg/kg, IV propofol 2mg/kg and IV atracurium 1mg/kg. After induction, endotracheal intubation was done with appropriate size endotracheal tube and depth of anaesthesia was maintained with O<sub>2</sub>/Air (50:50) with sevoflurane (1MAC). All patients, were given IV MgSO<sub>4</sub>, 8mmol, over 1 hour after induction of anaesthesia.

After induction, patients were given prone position and level of surgical incision was marked using C-arm. Following to marking of skin incision, erector spinae block was given one level above the surgical incision using landmark technique. Spinous process at appropriate level was palpated, 3cm lateral to that on both the sides, a point was marked which corresponds to the site of local anaesthetic administration on the transverse process for blocking the nerve. Under all aseptic precautions, 23G spinal needle (Quincke's, 90mm) was inserted perpendicular to the skin at the point marked and the needle was advanced through the plane till the transverse process was hit, after negative aspiration, ropivacaine (0.2%), 20ml, was given bilaterally for desired level of surgical analgesia and a successful block.

Succeeding to ESB, patients were draped and xylocaine (2%) with adrenaline (1:200000), 20ml, was given at the surgical incision marked. Intra-operatively heart rate, blood pressure, ECG, saturation, temperature and EtCO<sub>2</sub> was monitored and recorded. IV fentanyl 0.5mcg/kg was used as rescue analgesic intra-operatively. After completion of surgery, patients were reversed, extubated and shifted to post-operative recovery for observation. IV paracetamol, 1gm, was given in post-operative period at 6<sup>th</sup> Hour interval and IV fentanyl 0.5mcg/kg was used for pain relief in the postoperative recovery. Pain score in all patient was assessed and recorded using the visual analogue scale(VAS). Out of four patients, only one complaint of pain score between 4-6 when assessed using VAS in immediate post-operative period. Rest all three patients, were comfortable and had pain score between 2-4 when assessed on VAS. On the morning of first post-op day, all patients were mobilized along with passive lower limb exercises which they were able to perform with no restrictions.

Ben ZY et al, administered ESB to rib fracture patient admitted in intensive care unit which not only minimized opioid requirement but also helped in performing respiratory physiotherapy there by decreasing the need of respiratory support<sup>2</sup>. In our cases, ESB assisted

in early mobilization after the surgery along with minimal requirement of opioids for pain relief post-operatively. In another, randomized, case-control study by V.K.Goel et al, bilateral erector spinae block using ultrasound guidance was performed on patient undergoing single level lumbar fusion surgery and they concluded, that ESB gives higher patient satisfaction score in term of post-operative pain relief<sup>3</sup>. Solanki et al, administered ESB by landmark technique to 60 patients undergoing laparoscopic cholecystectomy and evaluated analgesic efficacy of bupivacaine and ropivacaine. According to their study results, landmark guided erector spinae plane block is simple, safe, easy to perform and most effective analgesic technique as part of multimodal analgesia for laparoscopic cholecystectomy patients<sup>4</sup>. In our cases, we used landmark technique for performing erector spinae block in patients undergoing lumbar fixation surgery and our patients had satisfactory pain relief assessed using visual analogue scale and none of our patient required additional dose of opioid for analgesia and were mobilized next day.

To conclude, erector spinae block administered using landmark technique is simple and easy to perform and provides worthy analgesia in post-operative period. Using this regional anaesthesia technique in combination with general anaesthesia reduces opioid requirement intra-operatively as well as in postoperative period.

### REFERENCES

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