

ePoster session 2 – Station 3

EP049

ERECTOR SPINE PLANE BLOCK WITH GENERAL ANAESTHESIA COMPARED WITH GENERAL ANAESTHESIA WITHOUT REGIONAL COMPONENT FOR SPINE SURGERY: PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

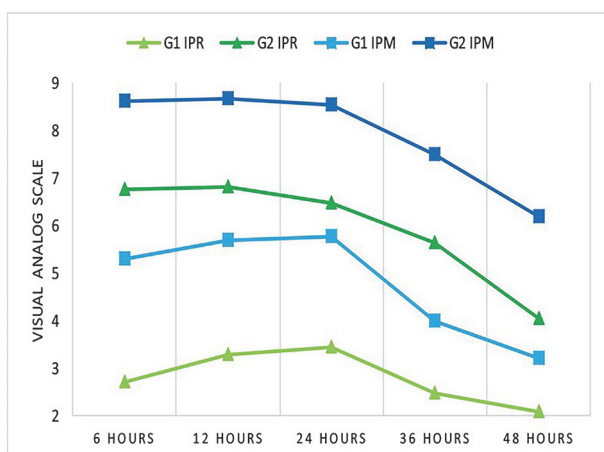
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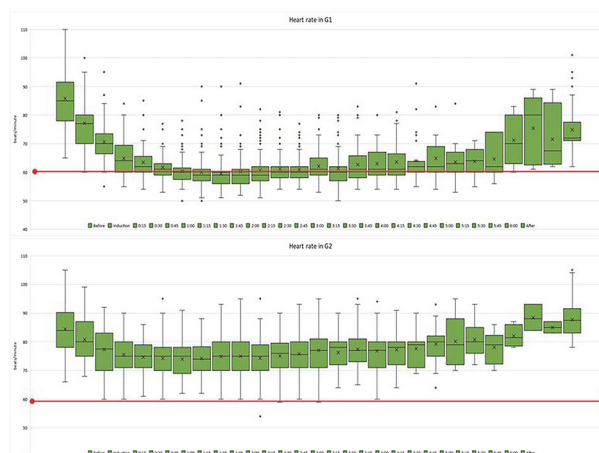
Background and Aims Spine surgery is a complex and traumatic intervention that require sufficient anaesthesia supplementation. Erector spine plane block (ESPB) is an effective method of reducing pain intensity, but there is insufficient data on its effect on hemodynamic parameters, blood loss (BL) and possible complications. Aim. Compare the impact of anaesthesia with ESPB and without on amount of opiates, BL, infusion therapy (IT), intensity of pain, study the consequence of two methods of anaesthesia on hemodynamic parameters, time of weaning from ventilation (TWV) and duration of hospitalization (DH).

Methods 151 patients which underwent spine surgery were divided into groups: G1 – general anaesthesia with ESPB, G2 – general anaesthesia alone. Outcomes: intensity of pain at rest (IPR) and movements (IPM) after surgery, DH, TWV, amount of fentanyl used intraoperatively and morphine post-operatively, mean arterial pressure (MAP), heart rate (HR), BL, diuresis, and IT during surgery.

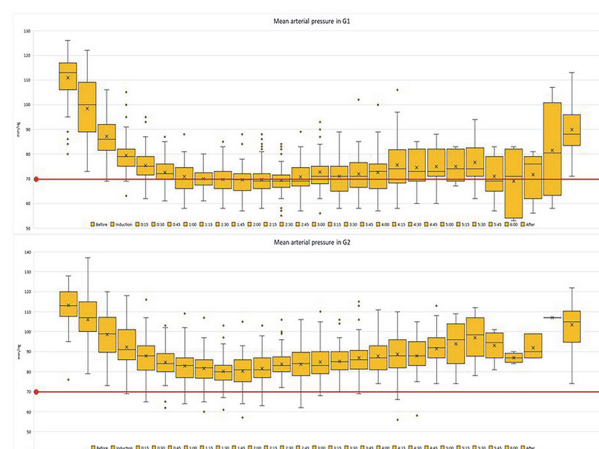
Results IPR, IPM were lower ($p < 0,01$) in G1 (figure 1). DH, TWV were longer ($p < 0,01$) in G2 ($14,09 \pm 7,27$ days; $23,68 \pm 5,16$ minutes) in comparison with G2 ($8,33 \pm 3,91$; $9,07 \pm 2,70$ respectively). Amount of fentanyl and morphine was lower ($p < 0,01$) in G1 ($1,84 \pm 0,75 \mu\text{gkg}^{-1}$; $5,62 \pm 5,00$ mg) in contraindication to G2 ($3,64 \pm 1,21 \mu\text{gkg}^{-1}$; $28,97 \pm 9,75$ mg). HR, MBP were higher ($p < 0,01$) in G2 (figure 1,2). BL, IT were higher ($p = 0,04$; $p = 0,14$) in G2 ($610,26 \pm 406,31$ ml; $1949,36 \pm 917,45$) in comparison with G1 ($480,82 \pm 354,60$ ml; $1597,12 \pm 809,54$ ml). Diuresis didn't differ ($p = 0,627$) in groups (G1- $102,74 \pm 10,46$ ml; G2- $110,32 \pm 17,78$).



Abstract EP049 Figure 1 Intensity of pain at rest (IPR) and movements (IPM) in G1 and G2



Abstract EP049 Figure 2 Heart rate throughout surgery in G1 and G2



Abstract EP049 Figure 3 Mean arterial pressure throughout surgery in G1 and G2

Conclusions ESPB as a component of anaesthesia reduces intensity of pain at all stages of observation after surgery, decrease amount of opiates, duration of ventilation and hospitalization. ESPB diminish HR and SBP, minimize BL and IT without affecting diuresis.

EP050

ANALGESIC EFFICACY OF ULTRASOUND-GUIDED TRIPLE-LEVEL ERECTOR SPINAE PLANE BLOCK VERSUS TRIPLE-LEVEL COSTOTRANSVERSE FORAMEN BLOCK IN PATIENTS UNDERGOING PERCUTANEOUS NEPHROLITHOTOMY: A RANDOMIZED, DOUBLE-BLIND, NON-INFERIORITY TRIAL

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Background and Aims Percutaneous Nephrolithotomy (PCNL) is associated with moderate to severe postoperative pain. Thoracic paravertebral block (TPVB) and ultrasound-guided (USG) interfascial plane block can effectively reduce postoperative pain following PCNL. Newer interfascial plane blocks: Erector Spinae Plane Block (ESPB), and Costotransverse Foramen Block (CTFB), both single and multiple-level injections, have shown wide dermatomal spread and provide adequate analgesia. We hypothesize that triple-level USG-ESPB has analgesic efficacy not inferior to triple-level USG-CTFB in patients undergoing PCNL.

Methods This prospective randomized, double-blind, inferiority trial was conducted after ethics committee approval. Fifty patients scheduled for PCNL were included in the trial. Patients received either triple-level USG-ESPB or triple-level USG-CTFB. Seven ml of 0.375% Ropivacaine at each level (21ml.) was injected for either block after induction of anaesthesia in the prone position. Total analgesic requirement (total cumulative morphine consumption in 24 hours), intraoperative analgesic requirement, time for the first analgesic, and 11-point NRS at various intervals for 24 hours were noted.

Results Median cumulative morphine consumption in 24 hours was 7mg (4-11.75 mg) and 7mg (3-11 mg) in ESPB and CTPB groups, respectively (P=.26). The mean time for the first analgesic requirement in the postoperative period in ESPB group was 189.8 ± 80.2 minutes and 199.6 ± 79.8 minutes in CTFB group (P=.66). No significant difference in the median NRS scores at rest and at movement at various time-intervals were observed. No adverse event was observed.

Conclusions Our study demonstrated that in patients undergoing Percutaneous Nephrolithotomy, triple-level USG-ESPB is not inferior to triple Level USG-CTFB in providing postoperative analgesia.

EP051

COMPARISON OF ANALGESIC EFFICACY BETWEEN INTRATHECAL ANALGESIA AND RECTUS SHEATH BLOCK IN PATIENTS UNDERGOING ROBOT- ASSISTED LAPAROSCOPIC PROSTATECTOMY

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Background and Aims The present study aimed at comparing the analgesic efficacy of intrathecal morphine and bupivacaine (ITMB) and rectus sheath block (RSB) in patients who underwent robotic-assisted laparoscopic prostatectomy (RALP).

Methods The institutional review board of Seoul St. Mary's hospital granted this prospective observational study on April 29, 2020 (approval number: KC20OISI0124). Fifty patients scheduled for elective RALP were randomly allocated into the ITMB (n = 30) and RSB (n = 30) groups. The ITMB group received an intrathecal injection of 0.2 mg morphine and 7.5 mg bupivacaine, preoperatively. Using 20 mL of 0.25% bupivacaine, RSB was performed bilaterally after the induction of general anesthesia in the RSB group. The fentanyl-based patient-controlled analgesia was intravenously infused after surgery in all patients. Cumulative opioid consumption and the numeric rating scale (NRS) score were assessed at 1, 6, and 24 h postoperatively.

Abstract EP051 Table 1 Demographic and intraoperative characteristics of the study and control groups. Abbreviations: ITMB, intrathecal morphine and bupivacaine; RSB, rectus sheath block
NOTE: Values are expressed as mean (± SD), median (interquartile) and number (proportion)

Table 1. Comparison of preoperative findings between the patients with ITMB and RSB

Group	ITMB	RSB	p
n	30	30	
Age (years)	64 (62 – 71)	66 (64 – 73)	0.192
Body mass index (kg/m ²)	24.3 (22.2 – 26.5)	23.6 (22.2 – 25.2)	0.332
Comorbidity			
Hypertension	16 (53.3%)	10 (33.3%)	0.118
Diabetes	5 (16.7%)	3 (10.0%)	0.706
Tuberculosis	0 (0%)	2 (6.7%)	0.492
Hepatitis	0 (0%)	3 (10.0%)	0.237
History of abdominal surgery	6 (20.0%)	4 (13.3%)	0.488
Prostate cancer stage			
Stage 1	7 (23.3%)	6 (20.0%)	0.864
Stage 2	18 (60.0%)	20 (66.7%)	
Stage 3	5 (16.7%)	4 (13.3%)	
Laboratory variables			
Prostate-specific antigen (ng/mL)	6.7 (4.4 – 10.0)	8.0 (5.7 – 12.3)	0.399
Hemoglobin (g/dL)	14.6 (13.7 – 15.6)	13.9 (13.2 – 15.5)	0.304
WBC count (x 10 ⁹ /L)	6.2 (5.2 – 7.5)	7.1 (5.9 – 8.3)	0.168
Platelet count (x 10 ⁹ /L)	212 (181 – 233)	188 (169 – 243)	0.848

Abbreviations: ITMB, intrathecal morphine and bupivacaine; RSB, rectus sheath block
NOTE: Values are expressed as mean (± SD), median (interquartile) and number (proportion).

Abstract EP051 Table 2 Postoperative analgesic characteristics of the study and control groups. Abbreviations: ITMB, intrathecal morphine and bupivacaine; RSB, rectus sheath block; NRS, numeral rating scale; IV, intravenous; PACU, post-anesthesia care unit †Dose equianalgesic to morphine (mg) NOTE: Values are expressed as median (interquartile) and number (proportion)

Table 2. Comparisons of postoperative NRS and cumulative IV opioid consumption between patients with ITMB and RSB

Group	ITMB	RSB	p
n	25	25	
At 1h after surgery (in the PACU)			
NRS at rest	3 (2 – 4)	5 (4 – 6)	0.001
NRS at cough	4 (3 – 5)	6 (5 – 7)	0.003
Cumulative IV opioid consumption (mg)†	4.4 (3.0 – 5.6)	8.2 (4.8 – 11.0)	<0.001
At 6 h after surgery (in the ward)			
NRS at rest	2 (2 – 2)	4 (3 – 7)	<0.001
NRS at cough	4 (3 – 4)	6 (5 – 8)	<0.001
Cumulative IV opioid consumption (mg)†	8.5 (6.4 – 10.7)	15.9 (11.7 – 23.8)	<0.001
At 24 h after surgery (in the ward)			
NRS at rest	1 (1 – 2)	3 (1 – 4)	0.003
NRS at cough	3 (2 – 5)	4 (3 – 6)	0.027
Cumulative IV opioid consumption (mg)†	18.7 (14.7 – 26.2)	42.8 (29.9 – 60.8)	<0.001

Abbreviations: ITMB, intrathecal morphine and bupivacaine; RSB, rectus sheath block; NRS, numeral rating scale; IV, intravenous; PACU, post-anesthesia care unit
†Dose equianalgesic to morphine (mg)
NOTE: Values are expressed as median (interquartile) and number (proportion).

Results Demographic findings were comparable between the two groups. During surgery, patients in the ITM group were administered less remifentanyl than the RSB group. The ITM group showed significantly less NRS scores during rest and coughing, and less cumulative opioid consumptions at 1 h, 6 h, and 24 h after surgery. No significant differences in complications were observed, during or after surgery.