

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 (\pm SD), median (interquartile) and number (proportion)

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%)	
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 (\pm 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)

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.

Conclusions ITMB enhanced analgesia during the early postoperative period in patients who underwent RALP, compared with RSB. The postoperative requirement for opioid analgesics were also significantly decreased in the ITMB group. Thus, intrathecal analgesia is considered an effective analgesic modality for RALP. Further studies are needed to promote patient recovery.

EP052 :FASCICULAR INJURY IS RARE FOLLOWING NEEDLE TRANSFIXION: A STUDY ON MEDIAN AND ULNAR ISOLATED HUMAN NERVES

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Background and Aims Needle trauma has been associated to peripheral nerve injury and neurological dysfunction. However, inadvertent needle puncture is not infrequent while post-block dysfunction is rare. We conducted a cadaveric study to evaluate the association between needle puncture and fascicular injury.

Methods Five median and five ulnar (isolated) nerves were obtained from unembalmed fresh human cadavers. 4 different needles were used for the punctures: A 22G nerve block needle (Stimuplex 360, 30 degrees beveled), and 22G, 25G and 27G spinal needles (Yale, 15 degrees beveled). 10 transfixing punctures were made with each needle type on each nerve (40 punctures per nerve). Needles were withdrawn and nerves fixed in 5% formalin for 72 hours. Perpendicular microtome sections of the punctured segments were obtained. Samples were embedded in paraffin and analyzed under microscope with hematoxylin-eosin staining. For each section, the following variables were obtained: ratio of fascicular/epineurial tissue, number of fascicles per nerve, number of injured fascicles.

Results A total of 400 transfixing punctures were made (200 in median and 200 in ulnar) and 144 histological nerve sections analyzed (74 median and 70 ulnar). Median nerves had 15 +/-3 fascicles and ulnar 17+/- 4. The ratio of fascicular/epineurial tissue was 47 +/-14% in median and 43+/-6% in ulnar. Three fascicular injuries were found (1 in median, 2 in ulnar). All 3 injuries were caused by a 15 degree beveled needle (22G in median, 27G and 22G in ulnar).

Conclusions The risk of fascicular injury is low following a transfixing needle puncture.

EP053 SUBPARANEURAL SCIATIC NERVE BLOCK ABOVE AND BELOW ITS DIVERGENCE AT THE POPLITEAL FOSSA: A RANDOMIZED DOUBLE-BLIND STUDY

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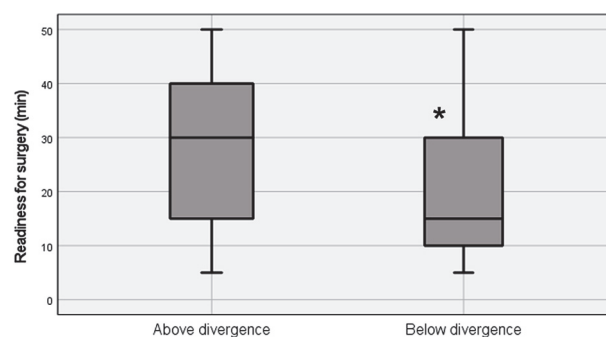
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Background and Aims Achieving rapid onset of surgical anaesthesia after an ultrasound-guided popliteal sciatic nerve block (PSNB) is still a challenge. We hypothesised that two subparaneural injections below the divergence (BD) of the sciatic

nerve would hasten sensory-motor block onset when compared to two injections above its divergence (AD).

Methods After ethical approval and informed consent, 70 ASA I – III patients, aged 18 to 75 years, scheduled for elective foot and ankle surgery were randomised into two groups. Patients in group AD received two subparaneural injections anterior and posterior to the sciatic nerve above its divergence, while group BD received subparaneural injections into the individual subparaneural compartments of the common peroneal nerve (CPN) and tibial nerve (TN) below the divergence, with 30 ml of 0.5% levobupivacaine. To achieve this, the subparaneural compartment of the sciatic nerve was initially distended with normal saline at the divergence. A blinded observer assessed sensory and motor blockade using a numeric rating scale (NRS 0-100) and a Likert scale (0-2) respectively. ‘Readiness for surgery’ (sensory score \leq 30/100 and motor score \leq 1/2) was the primary outcome variable of this study.

Results The median [IQR] time to ‘readiness for surgery’ (figure 1) was significantly faster ($p=0.02$) in group BD (15 min [10-30 min]) than in group AD (30 min [15-40 min]) .



Abstract EP053 Figure 1 Time to readiness for surgery after a subparaneural popliteal sciatic nerve block. Data are presented as a median [IQR]. * indicates $p=0.02$

Conclusions Ultrasound-guided subparaneural PSNB as two separate injections below the divergence of the sciatic nerve hasten the time to ‘readiness for surgery’ when compared to two injections above the divergence.

EP054 COMPLICATIONS IN CONTINUOUS PERIPHERAL NERVE BLOCKS AT HOME: A RETROSPECTIVE COHORT ANALYSIS OF 1,370 CASES FROM A UNIVERSITY-BASED HOSPITAL

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Background and Aims Continuous regional analgesia at home is a technique for postoperative pain management but is not exempt from complications. The following retrospective cohort study aims to determine the incidence and nature of the complications related to continuous regional analgesia at home.

Methods A retrospective analysis was conducted on 1,370 patients receiving continuous peripheral nerve analgesia at home, taken from our Pain Unit database. Data were collected on patient demographics, medical history, surgical procedure,