***Study Protocol***

**Methods**

A total of sixty (60) patients in the ASA I-III risk group, aged 18-75, with body mass index less than 35 kg/m² (BMI < 35 kg/m²), who were planned to be operated with open, unilateral, lumbotomy surgical incision were included. Patients with a history of allergy to the drugs used in our study, having active infection in the procedure area, mental defect, major vertebral anomalies, known blood and coagulation diseases, using anticoagulant drugs or those who received medical treatment that could lead to opioid tolerance were excluded from the study. This study was approved by the Hatay Mustafa Kemal University Clinical Research Ethics Committee (protocol number: 2018/121). Written informed consent was obtained from all participants.

In standard anesthesia induction, patients were preoxygenated with 100% oxygen. Anesthesia induction was achieved via administration of intravenous (i.v.) propofol (2-3 mg/kg), remifentanyl (1 µg/kg) and rocuronium bromide (0.6 mg/kg). To prevent propofol injection pain, i.v. lidocaine (1 mg/kg) was administered prior to propofol and all patients were intubated by the same anesthesiologist. Anesthesia was maintained with a 3 L/min fresh gas flow (50% oxygen and 50% air) using 2-2.5 % sevoflurane (1 MAC mean value). Isotonic 0.9% NaCl was used as maintenance fluid. The patients were placed in the appropriate surgical lateral decubitus position and the planned procedures were performed in our study groups. During the surgery, remifentanyl was started to be administrated at a dose of 0.15 µg/kg/min. Attempts were made to keep targeted depth of anesthesia in an oscillation range within 20% of the initial SAP (systolic arterial pressure). The depth of anesthesia was tried to be achieved within the targeted SAP range; through reducing remifentanyl by 25% of the initially calculated infusion dose in cases when SAP decreased below 20% of the initial SAP, and through increasing the initial infusion dose of remifentanyl by 25%, in cases when 20% of the initial SAB was exceeded.

For the anesthesia execution study groups, the patients were randomly assigned in the operating room 30 minutes before the surgery, with the help of a program that generates random numbers. The patient, whose operation was planned with lumbotomy surgical incision and was stable after anesthesia induction with appropriate hemodynamic parameters, was placed in the 60° lateral decubitus position. Patients were divided into two groups as the ESP block group (group ESP, n=30) and the group in which local anesthetic infiltration was applied to the incision site (group LIA, n=30). 20 mL (10 mL of 0.5 mg bupivacaine, 10 mL of 2% lidocaine) local anesthetic was used in each group.

In Group LIA, 10 mL of local anesthetic was administered to the skin, superficial subcutaneous and deep tissue along the incision line before the surgical incision. The surgical procedure was started 15 minutes after the injection. During the operation, 10 mL of local anesthetic was applied again, directly to the subfascial and peritoneal region.

In Group ESP, a linear 38-mm, high frequency 10-15 MHz transducer linear usg probe was placed to the 2-3 cm lateral of the T9 vertebral spinous process on the paramedian sagittal plane. The transverse process of the vertebra, trapezius muscle, erector spinae muscle, and subcutaneous tissue were visualized. The plane between the anterior fascia of the erector spina muscle and the T9 vertebra transverse process was aimed from the side to be operated with the lumbotomy incision, with a 22 G 80 mm stimuplex needle, using the in-plane technique. The targeted point was reached by advancing the needle in the caudal and cephalic directions at 45° angles. 10 mL of 0.5% bupivacaine and 10 mL of 2% lidocaine local anesthetic were administered in a controlled manner, carrying out negative aspiration at each 5 mL. The procedure was terminated observing the detached fascial plane after the administration of the local anesthetic drug, and the surgical procedure was started after 15 minutes. The amount of remifentanil used in the intraoperative period was calculated and recorded together with the operation time. 30 minutes before the completion of the operation, 1 g paracetamol and 1 mg/kg tramadol were administered to the patients.

Postoperative pain treatment was started with I.V. morphine PCA (patient controlled analgesia) method and postoperative analgesic consumption was monitored. Patient-controlled analgesia device was adjusted as 1 mg bolus dose, 10-minute lock-out interval and 20 mg 4-hour limit dose. Infusion and loading was not performed.

Paracetamol 1g was administered I.V. to patients whose NRS values exceed 4 and increase or do not decrease with opioid treatment. Total morphine and paracetamol doses consumed by the postoperative patients at the 0th, 1st, 2nd, 3rd, 4th, 6th, 8th, 12th, 16th, 20th, 24th, 32nd, 40th, 48th hours were recorded. During these follow-ups, the two groups were compared via evaluation of the patients' vital parameters (SAB, DAB, MAP, SS, SpO2), analgesia requirements, patient satisfaction (0= poor, 1= moderate, 2= good, 3= excellent), NRS, nausea and vomiting scales.