Combination of Lumbar Erector Spinae Plane and Parasacral Sciatic Nerve Block as the Main Anesthetic Method in a High Risk Patient Undergoing Transfemoral Knee Amputation

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Backrounds and Aim:

Transfemoral/above knee amputations can be performed under general or neuraxial anesthesia. However, patients with multi-comorbidities may require alternative aproaches.
The combination of lumbar plexus block (LPB) and parasacral sciatic nerve block (PSNB) may be used as the main anesthetic method in high risk patients.

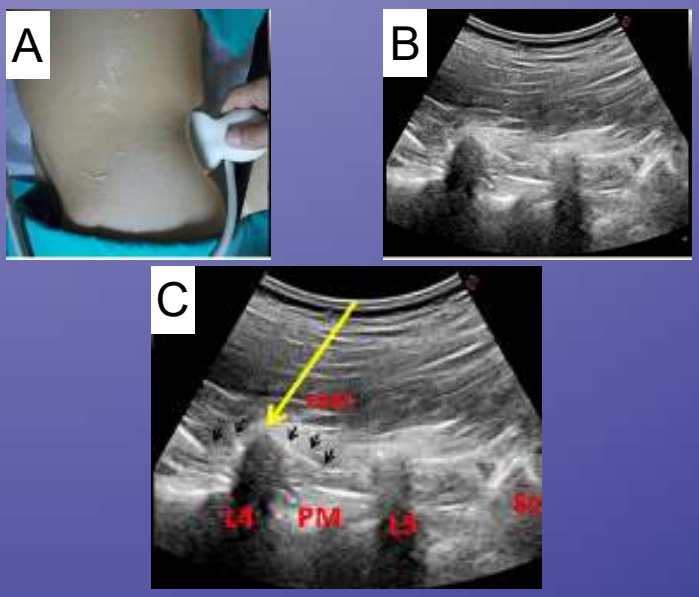
Lumbar Erector Spinae Plane block (L-ESPB) is a modification of Erector spinae plane block decribed by Forero et al. Previously, we reported that the L-ESPB could effect lumbar plexus and act as a LPB.
Herein; we report combined L-ESPB and PSNB use in a multi-comorbid geriatric patient undergoing knee amputation.

Methods:

A 72 year old (55 kg) male patient required transfemoral lower-extremity amputation due to atherosclerotic and thromboembolic obstruction. Medical history was significant for renal failure requiring hemodialysis, diabetes mellitus, congestive heart failure, right hip amputation (10 years ago) and drainage under local anesthetic of a bile stone leading to hepatic coma 2 weeks previously. Preoperative evaluation revealed left ventricular ejection fraction to be 20%, creatinine 5.62 mg/dl and total bilirubin 8.30 mg/dl. Considered his high risk, regional anesthesia was chosen. Informed consent for procedures was obtained. Premedication was aplied with midazolam 1 mg and Fentanyl 25 mcg. LPB and PSNB in the lateral decubitus position was planned, but insufficient USG imaging was achieved for LPB and there was no motor response to nerve stimulation. Due to lower volume and concentration requirements, L-ESPB (25ml) and PSNB (15ml) was performed with bupivacaine/lidocaine mixture (20 mL Bupivacaine %0.05, 10 mL lidocaine %2 and 10 mL isotonic NaCl). After performing the blocks; patient stayed in the supine position up to surgical procedure.

Results:

The pin-prick test was applied approximately 30 minutes after the blocks. Sensorial block was achieved between Th10 to L4 dermatomes. The patient reported moderate pain at a small area innervated by obturator nerve. Propofol infusion was started at 2 mg/kg/h and the dosage of propofol adjusted according to patient sedation and response to surgery. During surgery, the patient complained of mild pain in a small area of medial/posterior part of the leg innervated by obturator nerve and 10 mL propofol boluses were performed two times. During the surgical time of 75 minutes, 170 mg of propofol was consumed.
The pain intensity follow-up of patient was performed with Numeric Rating Scale (NRS) hourly. NRS was 1/10 at the end of surgery and remained <3/10 to postoperative 9th hour.



Figures A-B-C demonstrate sonoanatomy of L-ESPB

Conclusion:

L-ESPB is a safe alternative to other lumbar plexus or lumbar plexus component blocks and provides adequate anesthesia in transfemoral/above knee amputations when combined with PSNB.