



Sciatic Block and 3 In 1 Block for Lower Limb Surgeries Contraindicated to Spinal Anesthesia

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ABSTRACT

This procedure was evaluated in 30 patients (ASA I to IV) undergoing elective and or emergent orthopedic surgeries. Those patients who could not position themselves for sciatic block e.g. Fracture femur head, Hip were excluded from this study. All 30 patients were given sciatic nerve block through classic posterior approach and 3 in 1 block through inguinal perivascular approach with success rate of 90%. This technique could avoid centroneurexis block in haemodynamic unstable patients. This is safe simple and effective alternative to spinal anesthesia for power limb surgeries especially in patients with poly trauma. However one should be careful while using it in patients having gross hepatic and or renal disorder for fear of accumulation of local anesthetics drugs up to toxic level.

KEYWORDS

Anesthetic technique. Sciatic nerve Block, Posterior Approach Lumber plexus block 3in 1 Block Perivascular Approach

Introduction

Lower limb blocks are less popular because epidural and subarachnoid injection provide rapid, complete and safe anesthesia of the lower limb. And technically simple. Sciatic and 3 in 1 Block are easily accomplished with minimum side effect and avoid sympathectomy associated with spinal Anesthesia.

Nerve supply of lower limb is derived from lumbar (Femoral, Obturator and Lateral Cutaneous Nerve of thigh) and sacral (Posterior cutaneous nerve of thigh and sciatic) Plexuses. Inguinal perivascular technique of lumber plexuses block described by Winnie , utilizes the facial envelop around the femoral nerve as a conduct which carries injected anesthetics superiorly to the level where lumber plexuses forms. While classic posterior approach to the sciatic nerve block describe by Labat.also block posterior cutaneous nerve of thigh.

Material and Method

Thirty patients of either sex aged between 18 to 60 years belonging to ASA Grade I to IV undergoing elective and or emergency orthopedic surgeries were included in this study.

The procedure was properly explained to the patients and after taking informed consent the patients were premedicated with injection Glycopyrrolate IM 45 mints before the procedure.

In Operation Theater, the line was secured and the block was carried out with full aseptic precaution.

Technique for the Sciatic Nerve Block

Patients were kept lying on the opposite side of Block, Rolled forward with flexed knee with heel on the opposition to the knee of outstretch dependent leg. A line was drawn to connect posterior superior iliac spine to the greater trochanter of the Femur. A second line was drawn on of right angle from its midpoint downward 3 cm and it represent the point of injection second verification of this point was made by projecting line from greater trochanter to the sacral hiatus. The intersection of this line with the perpendicular also indicated the point of needle entry and would fall 3 to 5 cm along the line. 22 Gauge 10 to 12 cm long needle was advanced until a paraesthesia was elicited on bone was contacted.

If the bone was contacted then needle was retracted systematically In lateral or medially .Once the needle was properly

placed 20 ml inj Lignocaine HCL with Adrenaline 1 into 200 000 was injected.

Technique of Perivascular approach to lumber plexus block (3 in 1)

The patients were lying in supine position .The femoral artery was marked where it emerges the distal to the inguinal ligament. A short bevel 22 gauge 5 cm Needle was advanced lateral to the artery in a cephalic direction until perasthesia was obtained. The needle was held immobile while distal pressure was applied digitally to the femoral sheath. Total 30 ml of Lignocain HCLwith Adrenaline 1in200 000 was injected after negative aspiration. 2

Vital Para meters were monitored initially every 2 mints up to 15 mints . Sedation in form of injection Pentazocine 0.3 to 0.5 mg per kg and Inj Diazepam .01 mg per kg was given after establishment of complete block.

Post operatively the duration of analgesia was note and patients were observed for any side effect up to 8 hrs.

Results

Out of 30 patients 24 were males and Rest were 6 female. About 94% blocks were successful with meantime of onset 8.4 +3.2 minutes. Mean duration of analgesia with Lignocain HCL with Adrenaline 1 to 200 000 was 240 + 42 minutes.

27 cases were having relative contraindication of spinal anesthesia. The condition that relatively contraindicated to spinal anesthesia were hypovolumic shock Head injury and previous neurological deficit.ect.Intraoperatively 2 of 30 patients needed additional general anesthesia as they did not tolerate the Esmarch Cuff.

One patient develops slurring of speech and perioral numbness due to local anesthetic toxicity. Patient was carefully observed respiratory depression.

It is concluded that this technique is very safe, effective economical and can be mastered with little practice and useful alternative to spinal anesthesia for lower limb surgeries. However one should be careful while using it in patients having gross hepatic or renal disorder for fear of accumulation of up to toxic doses.

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