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Comparison of ultrasound guided femoro-sciatic nerve block versus epidural analgesia for post-operative analgesia following excision of knee tumours: A randomized controlled trial

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### **Objective:**

This randomized controlled trial aims at comparing the efficacy of postoperative analgesia by USG guided single shot Femoro-Sciatic Block (FSB) with lumbar Epidural Block (EB) in patients of 14-60 years undergoing corrective orthopaedic procedures attributed to bone malignancy around the knee viz, distal end of femur and proximal end of tibia.

### Methods:

From March 2018 to July 2019, 30 patients undergoing elective surgery for knee tumour resection and endoprosthesis placement for osteogenic sarcoma, Ewing's sarcoma and Chondrosarcoma at All India Institute of Medical Sciences, New Delhi were randomized to 2 groups as per intervention for postoperative analgesia viz Group E, receiving General Anesthesia (GA) with EB and Group FS, receiving GA with ultrasound guided FSB. EB was performed with 0.25% Ropivacaine 10 ml with 0.5 mcg/kg Clonidine as adjuvant and FSB with 15 ml and 20 ml of 0.25% ropivacaine with 0,5 mcg/kg clonidine around femoral and sciatic nerve respectively. The primary outcome was quality of postoperative pain as assessed by VAS Score and total analgesic requirement in the first 24 hours postoperatively. The secondary outcomes were comparison of intraoperative hemodynamics, blood loss, incidence of adverse effects like Post-Operative Nausea and Vomiting (PONV), pruritus, neurological sequrespiratory depression, local site side effects, overall patient and surgeon satisfaction in both the groups.

## Results:

The median VAS scores for group FS was 1 (1-2), 2 (1-6), 3 (2-6), 4 (2-6), 4 (3-6), 4 (3-7) and for group E was 1 (1-2), 4 (1-5), 4 (3-6), 5 (3-6), 5 (3-6), 6 (4-7) at 0,2,4,8,12 and 24 hours postoperatively with p-values of 0.104,0.044,0.02,0.010,0.016,0.0 09. The total Fentanyl consumption in 24 hours via PCA pump was  $186.7 \pm 56.4$  mcg in Group FS and  $277.33 \pm 45.9$  mcg in Group E with a p-value<0.001. The hemodynamics, blood loss, incidence of side effects related to the intervention, patient and surgeon satisfaction score were similar in both the groups.

### Conclusion:

Ultrasound guided FSB is superior to single shot lumbar EB in providing postoperative analgesia in knee tumour resection and endoprosthesis surgeries.

### Biography

Dilip Shende is Professor, Dept. of anaesthesia, pain medicine & Critical care in All India Institute of Medical Sciences. He has done M.B.B.S. M.D. (Anaesthesiology) and Specialist Training Authority UK: Awarded the Certificate of Completion of Specialist Training (CCST). His areas of Interest are Ophthalmic Pediatric, Orthopaedic & Regional anaesthesia (Ultra Sound guided Blocks), Urology including Robotic surgery, Bariatric surgery. He worked as Consultant anaesthetist with NHS UK, Worked as a Commonwealth Medical Fellow. He published around 50 research publications in international peer reviewed journal which include Anaesthesia, Anaesthesia, Acta Anaesthesia and Intensive Care, Paediatric Anaesthesia, Acta Anaesthesiologica Scandinavica, BJA. He has delivered more than 50 Talks in National conferences & International conferences.

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