



## Anaesthesiology

**UNILATERAL LUMBAR PLEXUS BLOCK FOR POST-OPERATIVE ANALGESIA USING BUPRENORPHINE AS AN ADJUVANT TO LEVOBUPIVACAINE IN HIGH RISK ELDERLY PATIENTS WITH TROCHANTERIC FRACTURE- A CASE SERIES**
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**ABSTRACT** In this case series, we aimed to evaluate if USG guided LPB using levobupivacaine with buprenorphine provides reliable, prolonged and effective post-operative analgesia with minimum side-effects in high risk elderly patients undergoing orthopaedic surgery for trochanteric fracture femur.

**KEYWORDS :****INTRODUCTION**

Lumbar plexus block has been a well accepted technique for pain management after total hip arthroscopy. Lumbar plexus block provides anesthesia or analgesia to the entire distribution of lumbar plexus, including the anterolateral and medial thigh, and using ultrasound imaging allows direct visualization of peripheral nerves, the block needle tip, and local anesthetic distribution.

This case series determined the advantage of lumbar plexus block using 0.25% levobupivacaine with 150 µg buprenorphine for post-operative analgesia in high risk elderly patients with cardiac stent in-situ undergoing surgery for trochanteric fracture femur under subarachnoid block.

**CASE 1:** 80-years-old male with #I/T (L) with history of cardiac stenting (DES) done 3 years back, presently on tab. aspirin 150 mg OD (reduced to 75 mg OD) and tab. clopidogrel 75 mg OD (omitted 5 days prior to surgery). Platelet count -80,000; PT/INR-18/1.45.

**CASE 2:** 78-years-old female, K/C/O CAD with stent-in-situ for 2 years, presented with #S/T (R) and on tab. aspirin 75mg OD with platelet count 84,000 and PT/INR-15/1.3

**CASE 3:** 84-years-old male presented with #I/T (L), on tab. aspirin 150 mg OD (reduced to 75 mg OD) and tab. Clopidogrel 75mg OD (omitted 5 days prior to surgery) post cardiac stenting (DES) 5yrs back. Platelet count-78,000 and PT/INR – 17/1.5

The surgery for trochanteric fracture was done under SAB given at the level of L3-L4 vertebra using 1.8 ml bupivacaine (H) in all the three patients.

In PACU, the patients were monitored for the regression of sensory block to T10 level following which they were given unilateral lumbar plexus block using USG.

The block was given using curved array probe in lateral decubitus position with the side to be anesthetized facing upwards with hip and knee partially flexed using 19 mm 22G needle inserted inplane injecting 30ml 0.25% levobupivacaine + 150 µg buprenorphine, with frequent aspirations and monitoring.

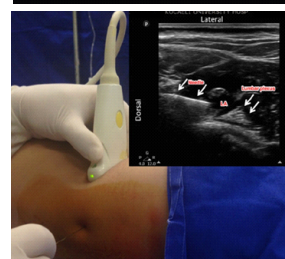
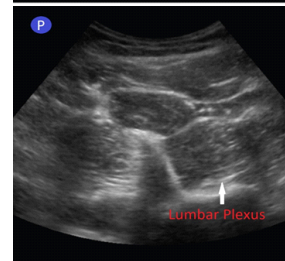
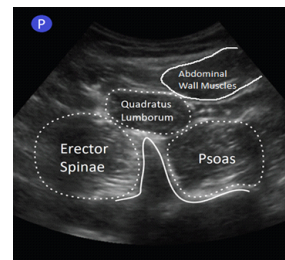
Patients were observed for pain (visual analogue scale), vitals (heart rate, blood pressure, and oxygen saturation) and side effects, and rescue analgesia using diclofenac 1.5 mg/kg given on demand for VAS >4

Total pain free period was calculated from the time of spinal injection to the time for first rescue analgesic demand and was 13.6 hours (13.5 hours, 13.7 hours, and 13.8 hours respectively)

Also, the patients were unable to feel needle prick during institution of LPB thus improving satisfaction.

None of the patients developed significant bradycardia and hypotension (>20% from baseline).

None of the patients developed sedation or respiratory depression.

**DISCUSSION**

Lumbar Plexus Block has been shown to be a reliable, safe and effective method of providing analgesia in immediate post-operative period following lower limb orthopaedic surgeries.1 Buprenorphine has been successfully used for postoperative pain control and as an adjuvant to various LA in different peripheral nerve blocks.2 Levobupivacaine has less cardiac and CNS toxicity compared to bupivacaine and duration of sensory block is longer than ropivacaine, so has the advantage in providing prolonged post-operative pain control.3

## CONCLUSION

USG guided LPB using levobupivacaine with bupernorphine provides reliable, prolonged and effective post-operative analgesia with minimum side-effects in high risk elderly patients undergoing orthopaedic surgery for trochanteric fracture femur.

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