

Intraoperative Surgeon Administered Adductor Canal Blockade Is Not Inferior to Anesthesiologist Administered Adductor Canal Blockade: A Prospective Randomized Trial

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Introduction: Controlling pain after total knee arthroplasty (TKA) remains a challenge. A single shot adductor canal block (ACB) decreases postoperative pain. A specialty-trained anesthesiologist imposes cost and skill barriers. Cadaveric studies and magnetic resonance imaging data show that access to the adductor canal is possible from within the joint; thus, the potential for intraoperative, surgeon administered ACB through a standard surgical approach is feasible. The purpose of this study is to compare the efficacy of surgeon administered intraoperative ACB to anesthesiologist administered ACB.

Methods: Patients undergoing primary TKA were prospectively randomized to receive either an anesthesiologist administered (Group 1) or surgeon administered (Group 2) ACB using 15ml of ropivacaine 0.5%. Outcomes were pain visual analogue scale (VAS), range of motion, opioid consumption, and patient satisfaction scores.

Results: 51 patients were enrolled (Group 1=28, Group 2=23) and followed for a minimum of 6 weeks. There was no difference in active flexion at postoperative day (POD) 0, or 6 weeks ($p=0.86$, 0.074 and 0.59). There was no difference in active extension at POD 0, 1, or 6 weeks ($p=0.38$, 0.07 and $p=0.3$). Opioid equivalents were equal on POD 0,1, and 2 ($p=0.86$, 0.68 , 0.47). Patients in Group 1 had significantly less pain on POD 0 ($p=0.014$), but there was no difference in pain VAS score on POD 1 or 2 ($p=0.4$, $p=0.95$). There was no difference in patient satisfaction with pain control on POD 0, 1, or 2 ($p=0.6$, $p=0.7$, $p=0.9$).

Conclusions: Surgeon administered ACB is not inferior to anesthesiologist administered ACB with respect to range of motion, patient satisfaction, or opioid consumption, although pain on POD 0 may be greater. Surgeon administered ACB is an effective alternative to anesthesiologist administered ACB.