

Adductor Canal Block Versus Femoral Nerve Block for Anesthesia of Hindfoot and Ankle Surgery : Prospective Randomized Trial

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Category: Other

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Introduction/Purpose: Femoral nerve block (FNB) has been commonly used for anesthesia and analgesia in patients undergoing foot and ankle surgery as well as sciatic nerve block. (SNB) However, its effect on motor function, related fall risk and impact on rehabilitation has been the source of controversy. Adductor canal block (ACB) potentially spares motor fibres of the femoral nerve, but the comparative effect on foot and ankle surgeries of the two approaches has not yet been well defined due to considerable variability in pain perception. The authors hypothesized that ACB, compared with FNB, would exhibit less quadriceps weakness and demonstrate noninferior pain score at surgery and at 2 to 24 hours after the operation.

Methods: Sixty patients scheduled for hindfoot and ankle surgeries (arthroscopy, achilles tendon surgery, medial ankle surgery) were randomised (stratified randomization for each surgery) to receive ultrasound-guided FNB or ACB in addition to combined SNB. The primary outcome was motor strength.(manually and via dynamometer) Secondary comparative outcomes included pain scales at each stages, time profiles (during procedure, time to full anesthesia, time to start recovery, time to full recovery, operation time), dose of anesthetics, complications and patient satisfaction. Degree of pain was measured using VAS (Visual Analog Scale) scores at the operation, 30 minutes after surgery, and at 2 h, 1 day, and 2 days after surgery.

Results: Thirty patients received ACB; 30 patients received FNB. At 30 minutes to 2h postanesthesia, ACB patients had significantly higher average dynamometer readings versus FNB patients (39.7 ± 21.1 , 37.5 ± 18.3 vs 0.0 ± 0.0 , 0.0 ± 0.0) , but was not inferior to FNB at 24 and 48 hours. There were no significant differences were seen between two groups at any time point with regard to pain in the quantitative comparison using visual analogue scale (VAS) scores, motor strength, dose of anesthetics, time profiles or patient satisfaction.

Conclusion: Adductor canal block preserved quadriceps muscle strength better than FNB, without a significant difference in postoperative pain. ACB may represent a safer alternative to FNB.

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