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Pre-Operative Femoral Nerve Block for Hip Arthroscopy: A Randomized Triple-Masked Controlled Trial

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Summary:
A prospective RCT showing pre-operative femoral nerve block in hip arthroscopy decreased early post-operative pain scores without affecting opioid use. The significant rate of falls within the nerve block group means femoral nerve blocks should not be used routinely.

Abstract:
Background: Arthroscopy has become a standard method of treatment for a variety of intra-articular hip pathologies. While most arthroscopic hip procedures are performed as day-surgeries, patients can still experience significant post-operative pain and opioid-associated side-effects.

Purpose: Our group has shown the potential benefits of preoperative femoral nerve block (FNB) in a previous retrospective review. It was our objective to confirm these findings in a prospective randomized study.

Methods: Fifty patients undergoing hip arthroscopy were included in this prospective, single center, patient, operator and assessor blinded, randomized controlled trial. Patients received either a preoperative ultrasound-guided FNB with 20 mL of 0.5% bupivacaine (FNB group) or normal saline (Control group). Nerve blockade was confirmed via standardized sensory testing prior to the induction of general anesthesia. The primary endpoint was cumulative oral morphine equivalent consumption at 24 hours after discharge. Secondary endpoints included opioid use at various time-points, pain scores, Quality of Recovery (QoR-27) score, incidence of nausea and vomiting, time to discharge, block-related complications, falls at 24 hours, and patient satisfaction.

Results: Fifty patients completed the study, including 27 in the FNB group, and 23 in the Control group. Patient characteristics were similar between groups. There was no difference in cumulative oral morphine consumption at 24 hours. Pain scores were significantly lower at 6 hours postoperatively in the FNB group, compared to control; however, rebound pain was observed at 24 hours after discharge in patients who received FNB. There was no difference in most secondary outcomes. Importantly, a total of 6 patients in the FNB group reported falls (without injury) within the first 24 hours postoperatively compared to none in the Control group. Patient satisfaction with pain control was high in both groups at all time-points.

Conclusions: Pre-operative FNB may improve early pain control following hip arthroscopy. However, given the observed risk of falls, we cannot recommend the routine use of FNB for outpatient hip arthroscopy.