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قسم التخدير

## البحث السابع

- عنوان البحث بالغة الانجليزية:

**Adductor canal block versus femoral nerve block in unicompartmental knee arthroplasty: a randomized, double blind, prospective, comparative study.**

المشرفين علي البحث حسب الترتيب:

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- نوع البحث :

بحث مشترك منشور غير مشتق من رساله سبق تقييمه في لجنة ترقية أدم. سيمون حليم أرمانوس متري بتاريخ 30 سبتمبر 2021 و حصل علي تقدير جيد 72.6% و عدد نقاط البحث 10.1 درجه.

- مكان و تاريخ النشر:

- Ain Shams Journal of Anesthesiology.
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### **Background:**

Minimally invasive knee replacement surgery has grown in early twenty-first century to join international trend of ambulatory joint surgery. Both ultrasound-guided femoral nerve block (FNB) and adductor canal block (ACB) have excellent postoperative analgesia following uni-knee replacement. Minimal motor power affection facilitates early patient ambulation and rehabilitation. Therefore, the objective of this study is to evaluate and compare the functional recovery and analgesic efficacy of both techniques in unicompartmental knee arthroplasty.

### **Methods:**

After University Review Board approval, informed written consent to participate in the study was obtained. Patients scheduled for unicompartmental knee arthroplasty (UKA) with combined spinal-epidural anesthesia were eligible for enrollment in this double blind, randomized trial. Patients received either FNB or ACB with a 20 cc of 0.5% of bupivacaine with 5 µg/ml epinephrine. Quadriceps muscle strength was measured as primary outcome using Medical Research Council scale (MRC). Postoperative pain with visual analog scale (VAS) and total morphine consumption was considered as secondary outcome, all recorded for 48 h post-anesthesia administration.

### **Results:**

Eighty patients were analyzed; quadriceps strength was significantly lower in the FNB group compared with ACB group especially at 12 postoperative hour (2 versus 4), respectively, p value < 0.05. There was no difference between the groups regarding postoperative VAS at rest except at 24 h was significantly lower in FNB group with p value 0.003. The gate disturbance and the number of falls were significantly lower in the ACB group than the FNB group (2 compared to 9), respectively. There was no difference between groups regarding postoperative nausea, vomiting, and itching.

**Conclusion:**

ACB preserved quadriceps muscle strength more than FNB, with reduced number of falls and without significant difference in pain relief. Therefore, ACB considered an alternative to FNB when given as supplemental postoperative pain control after unicompartmental knee arthroplasty.

**Trial registration:**

This clinical trial was registered in the Pan African Clinical Trial Registry (PACTR) <http://www.pactr.org/> as a prospective trial with the identification number PACTR201907788767332.