# EFFECT OF ANTERIOR FEMORAL NERVE BRANCHES BLOCK ON EARLY FUNCTIONAL RECOVERY AFTER TOTAL KNEE ARTHROPLASTY: A PILOT STUDY

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## INTRODUCTION

Total knee arthroplasty (TKA) is one of the most common joint replacement surgeries [1]. Despite the undeniable benefits, patients experience severe to moderate pain in the post-operative period [2]. Peripheral nerve blocks are gaining increasing attention and new techniques are being introduced. Some studies have shown that blocking the anterior branches of femoral nerve (FN) in combination with the femoral triangle (FT) and adductor canal (AC) might increase patients' satisfaction and improve early ambulation [3].

## METHODS

The data for this prospective, double-blind, randomised pilot study was collected at the Department of Anaesthesiology, Hospital of Lithuanian University of Health Sciences (LUHS) Kauno Klinikos. 10 patients undergoing TKA under spinal anaesthesia were blindly randomised into two groups of 5 patients each.

Group A (A) underwent block of the pFT, dAC and anterior FN branches, group B (B) underwent dFT and dAC block. The extent of motor block (Bromage scale) was assessed 3, 6, 24 and 48 hours after the surgery, and the ability of early ambulation (Timed Up and Go (TUG) test) - 24 and 48 hours after the surgery. Figure 1.

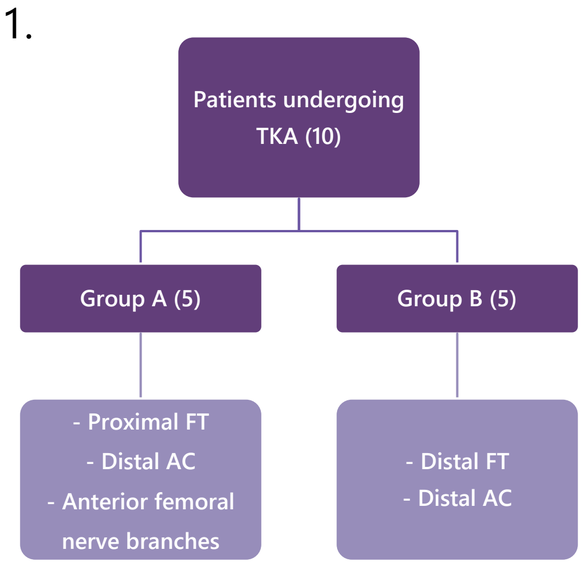


**Figure 1.** Method of regional anaesthesia in groups

## CONCLUSIONS

The extent of motor block and the ability of early ambulation did not differ statistically significantly between groups. Further research with a larger sample is therefore needed.

## AIM

The aim was to pilot functional recovery in patients after primary TKA by comparing distal FT (dFT) and distal AC (dAC) block with block of the proximal FT (pFT), dAC and anterior FN branches.

## RESULTS

10 patients were tested: 3 men and 7 women, aged between 47 and 79 years. The mean age of A was 60 (8.631) years and that of B 72.20 (6.535), p = 0.036. 3 hours after surgery only 1 patient in A was able to fully move the leg (Bromage scale 0), while the others could not move the leg at all (Bromage scale 3), p > 0.05. Meanwhile, in B 60 % of patients were able to move the leg freely, while the rest moved their leg partially - 20 % could only move the ankle, and another 20 % could bend the knee as well, p > 0.05. After 6 hours 90 % of all patients were able to move freely, except for 1 person in B, who was still unable to lift the leg upwards, p > 0.05. After 24 hours, the results remained the same. After 48 hours, all patients regained the ability to raise the leg straight up.

The mean TUG test scores at 24 and 48 hours were 43.61 (18.649) and 41.46 (18.544) seconds in A and 35.64 (3.375) and 34.26 (3.438) seconds in B, respectively, p > 0.05. Figure. 2

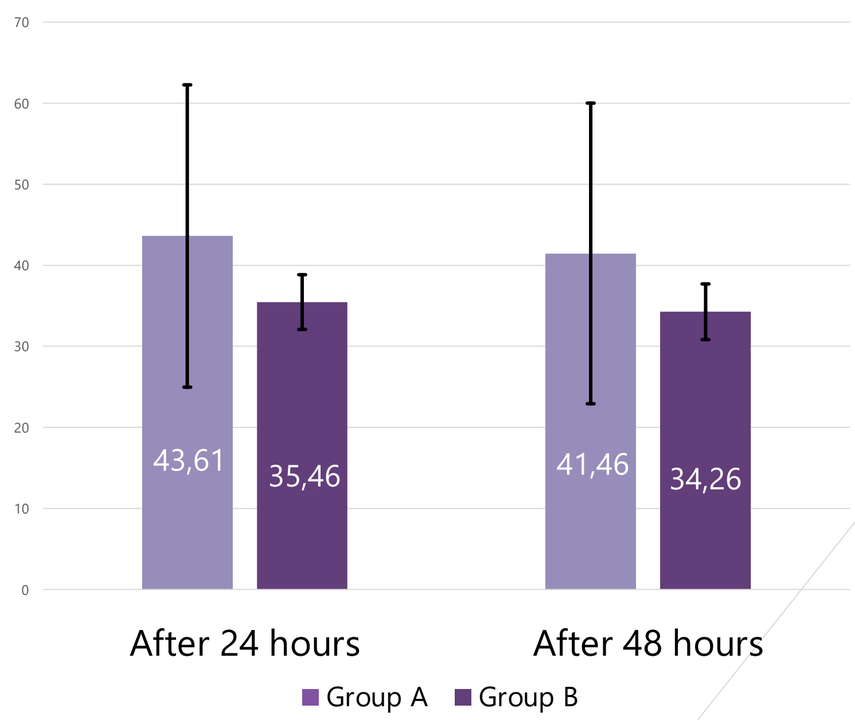


**Figure 2.** TUG Test Scores

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