



## Letter to the Editor Regarding “Adductor Canal Block Provides Better Performance after Total Knee Arthroplasty Compared with Femoral Nerve Block: A Systematic Review and Meta-Analysis”

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### Letter to the Editor

With great pleasure, we write to introduce our works on adductor canal block (ACB) after total knee arthroplasty (TKA). ACB is a promising analgesia developed in recent years, which is conducted by injecting drugs in a cavity named adductor canal surrounded by the sartorius muscle, medial femoral muscle, and the adductor muscles. ACB is mainly to block the saphenous nerve which is the terminal sensory branch of the femoral nerve, so it would not compromise motor function.

It is reported that ACB made good performances in terms of high successful pain control rate and low complication incidence after TKA in the previous trials [1-3]. According to our meta-analysis [4], which included 8 randomised controlled trials (RCT) involving 434 patients (504 knees), ACB can significantly decrease visual analogue scale (VAS) score at rest early after operation, and improve quadriceps strength and mobilization ability. At the same time, ACB is as good as femoral nerve block that it is regarded as the standard method for pain control after TKA on VAS score with activity, opioid consumption, hip adductor strength, patient satisfaction, et al. So, ACB may help the patients undergoing TKA obtain a faster recovery and a better quality of life.

In order to evaluate the effectiveness of ACB after TKA, we have conducted a RCT comparing ACB with FNB recently. In our study, forty patients who were scheduled to undergo TKA were randomly divided into two groups: adductor canal block (ACB) group and femoral nerve block (FNB) group. The ACB group was given adductor canal block with ropivacaine (5 g/L, 20 ml) and 0.1 mg epinephrine half an hour before the surgery, while the FNB group was given femoral nerve block with ropivacaine (3.33 g/L, 30 ml) and 0.1 mg epinephrine

half an hour before the surgery. All other dispositions were similar and the operations were performed by the same group of doctors. The Visual Analogue Scale (VAS) scores at rest and with activity, the knee joint range of motion, the muscle strength of quadriceps femoris, total Meperidine hydrochloride consumption, and the side effects and complications were recorded during our research. According to the results, ACB was not inferior to FNB in terms of VAS score Meperidine hydrochloride consumption and the side effects and complications. However, The ACB group showed better performances of the knee joint range of motion and the muscle strength of quadriceps femoris. In conclusion, the adductor canal block had similar early analgesia effects with the femoral nerve block when TKA was performed. However, compared with FNB, the ACB was more beneficial to patients regarding the early postoperative rehabilitation to patient.

According, the use of ACB post TKA is a good option for pain treatment and worthy of being recommended.

### References

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