

greater in the PENG group than in the FNB group (5/5 vs. 2/5, $p = 0.001$). A recent randomized trial [22] with sixty patients, postoperative pain in the recovery room and quadriceps strength in the PENG group were better compared to FNB. The preservation of quadriceps strength is another theoretical advantage of the PENG block. Histological studies showed that nociceptive hip joint capsule fibers primarily innervate the anterior aspect of the capsule, while the nerve fibers innervating the posterior aspect of the capsule are mainly mechanoreceptors [23-25]. These findings suggest that blocking the nerves innervating the anterior capsule is the most important factor in achieving good analgesia and preserving quadriceps strength when performing PENG block. However, Yu [26] reported that 2 of over 100 patients who underwent PENG block developed motor blockade [25]. They suggested that abnormal spread of local anesthetic to motor branches of the femoral nerve could be possible when blockade is technically challenging to perform. In a cadaveric model using 20 mL of methylene blue, Tran [15] did not observe the spread pattern posterior to the articular capsule. Mistry [27], reported that the injection zone of the local anesthetic in PENG block is very important and would influence the effectiveness of the block. Optimal injection is reflected in the ultrasound vision of a medial diffusion towards the iliopubic eminence.

In our study, PENG block was easy to perform. The performance time in the PENG block group was shorter than the FIB group. In one study [27] comparing the two ultrasound approach's, performance time for PENG block was shorter in out-of-plane approach (53 sec. vs. 84 sec.). We used in-plane approach with a mean performance time of 108.74 ± 48.24 sec [28].

CONCLUSION

We conclude that, PENG block was as efficient as FIB in providing painless and comfortable sitting position for SA in hip surgery repair for elderly. It was easy to assimilate and perform and was also safe. More studies should be conducted to enhance our knowledge about real advantages of this new block: success rate and quadriceps muscle preservation.

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TRIAL REGISTRATION

The study was registered in ClinicalTrials.gov under the number NCT 04285333.

CONFLICTING INTERESTS

The Authors declare that there is no conflict of interest.

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