

Letters to Editor

PENG block catheter for preoperative pain relief in a patient with fracture neck of femur

Dear Editor,

Hip fractures are one of the most common fractures encountered in the old age. Early surgical fixation of the fracture is the definitive treatment in most patients. Preoperatively these patients undergo a lot of diagnostic testing (X-rays and workup for comorbid conditions) which requires movement of the patient from the ward and sometimes shifting from bed to investigation table. Providing good preoperative pain relief to these patients using multi-modal analgesia while minimizing the use of opioids becomes essential and challenging for anesthesiologists. Various regional anesthetic techniques have been described for providing preoperative pain relief in these patients. But they, at best, provide modest pain relief.^[1] This may be because anterior hip capsule is innervated by femoral, obturator and accessory obturator nerves. Femoral, fascia iliaca and 3-in-1 block usually result in sparing of obturator and accessory obturator nerve.^[2,3] Recently

Girón-Arango *et al.* have described PENG block for providing preoperative pain relief in these patients.^[4]

We report the preoperative pain management in an 82-year-old female patient with multiple comorbidities presenting with fracture of right hip. She was planned for right hip hemiarthroplasty. Her pain score as determined by Numeric Rating Scale (NRS) at presentation was 10/10. She was planned for X-ray and CT scan of hip, along with cardiology and neurology workup, which she refused because of pain. It was then decided to give her PENG block and to place a catheter for continuous infusion. After taking informed consent, an 18G Tuohy needle was introduced so as to place its tip next to psoas tendon between Anterior Inferior Iliac Spine and Iliopubic Eminence [Figure 1]. Once the position of the tip of the needle was confirmed sonographically, an 18G epidural catheter was advanced through the needle and inserted for a length of 5 cm in a plane between psoas tendon and pubic ramus. Through the catheter 20 ml of 0.375% Ropivacaine was given as a bolus and a continuous infusion was started at 5 ml/hr through it [Figure 2]. Around 20 min after giving the drug, NRS of patient decreased to 1 at rest and 3 with movement. 0.375% Ropivacaine infusion was continued at 5 ml/hr till the time of surgery which was done 2 days after patient presented in emergency.

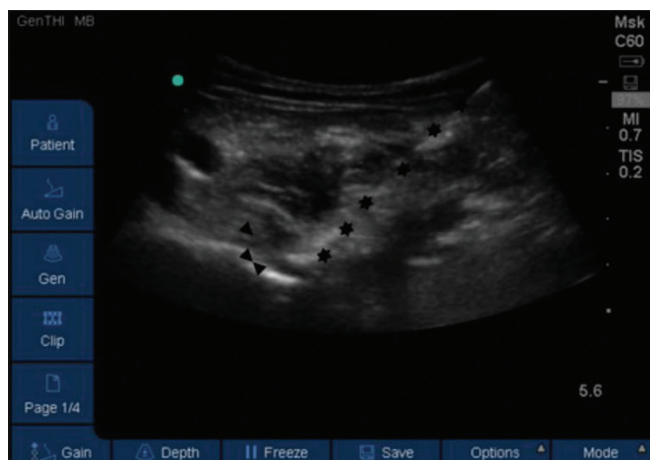


Figure 1: PENG Block. * Needle Trajectory. ▼ Psoas Major Tendon ▲ Iliopubic Eminence. USG orientation marker lies medially. USG orientation marker lies medially

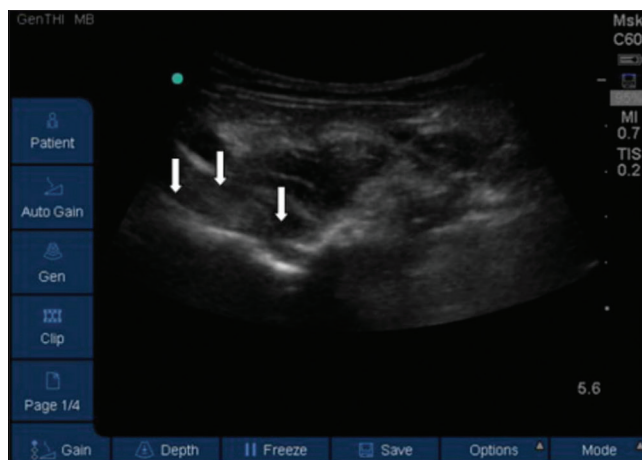


Figure 2: After drug injection. Spread of drug (□) can be seen next to psoas tendon and extending medially. USG orientation marker lies medially. USG orientation marker lies medially

Girón-Arango postulated that PENG block targets articular branches of femoral and accessory obturator nerve.^[4] They also proposed that drug injected during PENG block can spread to subpectineal plane present between pectineus and obturator externus.^[4] In our clinical experience we have found PENG block to be effective in relieving adductor spasm after total hip replacement. Adductor spasm can be relieved by PENG block only if the drug reaches the obturator nerve. We postulate that the drug injected during PENG block spreads to either subpectinate plane or to the obturator foramen to anesthetize obturator nerve as well. The pain relief in our case was encouraging, but further large studies comparing PENG block with traditional regional anesthesia techniques are required before making generalization and to better understand the mechanism of analgesia and spread of drug in PENG block.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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