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Continuous PENG Block for Postoperative Analgesia in Acetabulum Fixation Surgery

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Introduction

Pericapsular nerve group (PENG) block is a novel regional anaesthetic technique described for the management of pain associated with hip fractures. Here we describe our experience with the continuous PENG block technique in a patient who underwent posterior acetabular fixation surgery.

Case report

A man in fourth decade, with no comorbidities sustained a traumatic left posterior acetabular fracture. Since he also had multiple lumbar spine transverse process fractures and could not be considered for a neuraxial block. A continuous PENG block was planned for the postoperative analgesia. Under standard monitoring patient was induced with fentanyl, propofol and atracurium, following which the patient was prepared for the block. A high frequency linear probe was used. It was placed over the anterior superior iliac spine and then it was rotated counter clock wise to align the probe along the pubic ramus. The femoral artery, psoas tendon and the iliopubic eminence were identified (**Figure 1**).



Figure 1: The Pericapsular nerve group block

A 18 G Tuohy's needle was inserted in plane in lateral to medial direction. The needle was placed into the fascial plane between psoas tendon and pubic ramus, a 20 G catheter was inserted and 30 ml of 0.2% Ropivacaine was given. A continuous infusion of 8ml/hour 0.2% ropivacaine was started. Intraoperative analgesia was supplemented with Inj Paracetamol 1gm and Inj Morphine 0.1mg/kg. The patient was extubated comfortably. Postoperatively the infusion was continued at 8 ml/h. He was maintained on Inj Paracetamol 1gm eighth hourly. His visual analogue scores remained below 3 in the postoperative period and he did not require any rescue analgesics.

Discussion

PENG block was first described by Giron et al, for providing post-operative analgesia in hip fracture surgeries [1]. It has been found to be very helpful in positioning patients with hip fractures for performing subarachnoid block [2]. It is believed to block the articular branches arising from femoral, obturator and accessory obturator nerves which innervate the hip joint. Recently a landmark guided technique was studied and demonstrated to be effective [3]. PENG block has been used in different hip surgeries including hip replacement and hip arthroscopy [4]. Singh et al, studied the effectiveness of the continuous PENG block for maintaining postoperative analgesia in hip fracture surgeries [5]. Traditionally a volume of 20 ml of the local anaesthetic was used for providing analgesia in hip fracture patients. But there are case reports showing that larger volume can help to provide effective analgesia in acetabular surgeries [6,7]. So we gave a large volume bolus of 30 ml followed by a infusion at 8 ml/h which provided effective analgesia in or patient.

Conclusion

The PENG block is a recently described fascial plane block. It has wide utility and is being extensively studied. Being a motor sparing block it does not interfere with postoperative ambulation. The exact volume and concentration of the drug required needs to be further explored.

References

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