LOW VOLUME FEMORAL NERVE BLOCK AND "INTERSPACE BETWEEN THE POPLITEAL ARTERY AND POSTERIOR CAPSULE OF THE KNEE" (IPACK) BLOCK FOR TOTAL KNEE ARTHROPLASTY

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Background and Aims

Total knee arthroplasty (TKA) is one of the most commonly performed and painful orthopaedic procedures. Femoral nerve block (FNB) is proven to provide effective analgesia, however the use of high doses or continuous infusion are often associated with delayed ambulation¹. IPACK block is a novel technique shown to improve pain relief whilst preserving motor function¹. We examined the impact on mobilisation and postoperative pain of a multimodal analgesia protocol using a single low dose FNB and IPACK block.

Methods

After local institutional approval, a retrospective patient chart review was conducted. Inclusion criteria included adult patients undergoing TKA and having an ultrasound guided FNB using 10ml 0.25% levobupivacaine and IPACK block using 20ml 0.25% levobupivacaine as part of an established multimodal analgesia protocol. The primary outcome was ambulation within the first 24 hours. Secondary outcomes included numerical pain scale scores (NPSS), time for first morphine request, opioid consumption and time to physiotherapy discharge.

Results

Eight patients were included. All were able to mobilise within 24 hours. Median pain scores were 0 (0-3) day 0, 2.25 (0-5) day 1 and 2 (0-4) day 2. Two patients did not need any morphine during admission. Among the others, median time for first request of morphine was 17 hours (8-41). Median oral morphine consumption within 48 hours was 10mg (0-110). Median duration for physiotherapy discharge was 2.5 days (1-7).

Analgesia protocol

1. Spinal or general anaesthesia
2. IPACK + low dose FNB
3. Multimodal analgesia intra-op
4. Post-op: Paracetamol, Ibuprofen, Dihydrocodeine, PRN IR Morphine

1. Needle
2. Femoral artery
3. Local anaesthetic
4. Femur

Conclusion

The combination of a low dose FNB and IPACK block as part of a multimodal analgesia protocol allowed early ambulation and provided low pain scores with low opioid consumption in our patients.

References

1. Thobhani S, Scalercio L, Elliott CE, Nossaman BD, Thomas LC, Yuratich D, Bland K, Osteen K, Patterson ME. Novel Regional Techniques for Total Knee Arthroplasty Promote Reduced Hospital Length of Stay: An Analysis of 106 Patients. *Ochsner J.* 2017; 17 (3): 233-238