

Anaesthesia for Unicompartmental Knee Replacement

Prilotekal vs Bupivacaine

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1. Background: The utilization of neuraxial versus general anesthesia for primary joint arthroplasty is associated with superior perioperative outcomes [1]. Current trend is moving towards day surgery supported by evidence from the Enhanced Recovery Program pathways. We present successful anaesthetic management of Unicompartmental Knee Replacement(UKR) using Intrathecal Hyperbaric Prilocaine. Use of intrathecal Prilocaine for UKR hasn't been reported in literature.

Dose/Times	Dose	Spinal to Theatre, min	Operation time, min	Return of sensation, min	Stay in recovery, min	Physio ready	Readiness for discharge
Bupivacaine	14mg	42	58	312	192	Seen ~23hrs	~42hrs
Prilocaine	60mg	27	66	135	86	337(<6 hrs)	<6hrs

3. Table: Comparison of times above is suggesting quicker recovery and physiotherapy readiness for discharge

4. Discussion: The presented patient has become his own “control”, demonstrating clear advantage of short-acting intrathecal prilocaine. There is a strong association between spinal anaesthesia and lower 30-day mortality, as well as a shorter hospital length of stay, after elective joint replacement surgery [2]. Hyperbaric Prilocaine use for ambulatory arthroscopic surgery is well established [3], its use for primary knee and hip replacements in our centre is growing.

5. Learning points: Intrathecal hyperbaric prilocaine (Prilotekal) is suitable for UKR Day Case surgery. It gives advantage over hyperbaric bupivacaine (Marcaine), facilitating early ambulation and early discharge whilst reducing the chance of urinary retention. Good team work with co-ordination with the surgical team is necessary to ensure duration of anaesthesia covers positioning and operative time.

2. Case report: A patient aged 80yrs with history of spinal stenosis and prostatism was booked for elective medial UKR. He had contralateral UKR 12yrs ago under spinal with hyperbaric bupivacaine + popliteal n. block (20mls 0.2% Ropivacaine) and sedation. This procedure was complicated by post-operative urinary retention which needed catheterisation. After discussion with team, decision was taken to use intrathecal hyperbaric prilocaine (Prilotekal) + adductor canal block (10mls 0.5% plain bupivacaine) to avoid the same problem and facilitate discharge within 23 hrs.

References:

- 1 [Memsoudis SG, Sun X, Chiu YL, Stundner O, Liu SS, Banerjee S, Mazumdar M, Sharrock NE](#), Perioperative comparative effectiveness of anesthetic technique in orthopedic patients. [Anesthesiology](#). 2013 May;118(5):1046-58
- 2 [Perlas A, Chan VW, Beattie S](#), Anesthesia Technique and Mortality after Total Hip or Knee Arthroplasty: A Retrospective, Propensity Score-matched Cohort Study. [Anesthesiology](#). 2016 Oct;125(4).
- 3 [Aguirre J, Borgeat A, Bühler P, Mrdjen J, Hardmeier B, Bonvini JM](#), Intrathecal hyperbaric 2% prilocaine versus 0.4% plain ropivacaine for same-day arthroscopic knee surgery: a prospective randomized double-blind controlled study. [Can J Anaesth](#). 2015 Oct;62
- 4 [Schwenk ES, Johnson RL](#), Spinal versus general anesthesia for outpatient joint arthroplasty: can the evidence keep up with the patients? [Regional Anesthesia & Pain Medicine](#) 2020;45:934-936.