

5. A DOUBLE-BLIND COMPARISON OF ROPIVACAINE 5MG/ML AND BUPIVACAINE 5 MG/ML FOR INTRATHECAL ANESTHESIA IN MAJOR SURGERY (TOTAL HIP ARTHROPLASTY).

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Introduction: Intrathecal administration of ropivacaine has been shown to provide effective and well-tolerated anesthesia for gynecological and urological procedures (1,2) The aim of this study was to compare the efficacy and safety of ropivacaine 5 mg/ml and bupivacaine 5 mg/ml when used for spinal anesthesia in patients undergoing primary unilateral total hip arthroplasty.

Materials and Methods: Following Medicines Control Agency and local Ethical Committee approval plus informed consent, 68 patients (ASA I-III) were scheduled for elective primary hip arthroplasty. They were randomised (in a double-blind fashion) to receive 3.5 ml of isobaric ropivacaine 5 mg/ml (n=34) or isobaric bupivacaine 5 mg/ml (n=34). The intrathecal injection was performed using a Whitacre needle at L3-L4 or L2-L3. Assessments of sensory and motor block were performed at regular intervals pre- and post operatively. Vital signs were monitored intra-operatively and up until 8 hours post intrathecal injection.

Results: Onset of motor and sensory block was rapid and equal (median 2 min) for both groups. The median duration of motor block (Bromage >1) was 3.7 h in the ropivacaine group and 5.0 h in the bupivacaine group (p<0.01). All patients in both groups had a sensory block to T10 or above prior to the onset of surgery; median duration at T10 was 3.0 h in the ropivacaine group and 3.5 h in the bupivacaine group (p<0.001). Ropivacaine 5 mg/ml provided excellent anesthesia condition for 31/32 of the patients and the corresponding figure for bupivacaine 5 mg/ml was 100%. In all patients but one in each group the muscle relaxation during surgery was considered excellent. The median morphine consumption postoperatively 0-24 h was 54 mg in the ropivacaine group and 44 mg in the bupivacaine group. Four hours after injection 88% of the bupivacaine treated patients had a Bromage score >1 compared with 44% in the ropivacaine group. Vital signs were similar between groups. Hypotension was reported for 34% of the patients in the ropivacaine group and 38% of the patients receiving bupivacaine. Adverse events were similar between groups.

Conclusion: Intrathecal ropivacaine (17.5 mg) is an effective and well-tolerated alternative to bupivacaine for spinal anaesthesia in primary hip arthroplasty with the benefit of a shortened period of motor block

(1) Van Kleef JW, Weering BT, Burm AGL. *Anaesth Analg* 1988;67:1047-1052.

(2) Wahedi W, Nolte H, Klein P. *Anaesthetist* 1996;45:737-744.