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A Double Blind Comparison of Lidocaine 5% with Glucose and Lidocaine 2% with Glucose for Spinal Anesthesia.

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Introduction. Lidocaine 5% with glucose is often used to for spinal anesthesia of short duration. Recently transient radicular irritation has been reported after spinal anesthesia with lidocaine 5% heavy (1). To our knowledge no case reports have been published of radicular irritation after the use of lidocaine 2% with or without glucose. The aim of the present study is to compare the sensory and motor blockade after intrathecal administration of equipotent doses of lidocaine 5% and lidocaine 2% both with glucose 7.5%. Also we examined the incidence of back pain as a sign of radicular irritation.

Methods. After approval by the ethical committee of the hospital 20 patients (the study will be expanded to 40 patients) scheduled for transurethral surgery gave their informed consent. Patients were randomly assigned to receive an intrathecal injection with 1.6 ml of lidocaine 5% with 7.5% glucose (group 1) or 4.0 ml of lidocaine 2% with 7.5% glucose (group 2). In this way both groups received 80 mg of lidocaine. Patients were premedicated with oxazepam 20 mg orally. A 500 ml IV preload with a cristalloid solution was given to all patients before the intrathecal injection. With the patient in sitting position dural puncture was performed at the L2-3 interspace using a 25G pencil point needle. After obtaining a free flow of clear cerebrospinal fluid, the lidocaine solution (at room temperature) was injected at a rate of 0.2 ml/sec. Immediately after injection the patient was placed in a supine horizontal position and ten minutes later in the lithotomy position. One-lead ECG was monitored continuously and blood pressure was measured before injection and 2, 5, 10, 15 and 20 minutes after injection using an automatic blood pressure monitor. Patients were assessed for segmental level of analgesia (by pin-prick method) and motor block (Bromage score) at two minute intervals for ten minutes and at 15, 20, 25 and 30 minutes after injection. Further assessments were made at 15 minute intervals until regression to the T12 level. On the first postoperative day patients were questioned for the presence of back pain and/or radiating pain in the legs. Data were analysed using a non-parametric test for unpaired observations.

Preliminary Results. There were no significant differences between the two groups in segmental sensory level, the degree of motor block and the rate of regression to the T12 level. Also there was no difference in hemodynamic changes after injection. In the lidocaine 5% group there were three patients complaining of low back pain on the first postoperative day; one of them also had radiating pain in the legs. These complaints disappeared within 24 hours. In the lidocaine 2% group none of the patients complained of back pain.

Discussion. These data suggest that, compared to hyperbaric lidocaine 5%, the use of an equipotent dose of hyperbaric lidocaine 2% for spinal anesthesia results in the same level of sensory block, the same degree of motor block and the same rate of regression to the T12 level. So far none of the patients who received lidocaine 2% heavy had any signs of radicular irritation.

Reference.

Schneider M. et al. Transient Neurologic Toxicity After Hyperbaric Subarachnoid Anesthesia with 5% Lidocaine. *Anest. Analg.* 76:1154-1157, 1993