

# The effect of cerebrospinal fluid dilution of isobaric 0.5% bupivacaine used for spinal anaesthesia.

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摘要

Abstract

A prospective study was conducted to see the effect on spinal anaesthesia of the dilution of isobaric 0.5% bupivacaine with cerebrospinal fluid. Sixty patients were randomly allocated to three groups. In group 1, patients received 3 ml isobaric 0.5% bupivacaine intrathecally without aspirating cerebrospinal fluid. In groups 2 and 3, cerebrospinal fluid 1 ml and 2 ml was aspirated respectively and mixed with 3 ml isobaric 0.5% bupivacaine. A total volume of 4 ml in group 2 and 5 ml in group 3 was administered. Thus, the volume of cerebrospinal fluid remained unchanged. Pinprick analgesia and motor block was evaluated from induction until recovery. No differences in onset time, duration and 'two segments regression' were noticed. The only statistical difference was the time to reach complete motor block, which was shorter in group 1 as compared to groups 2 and 3 (6.9 SD 1.4 min versus 11.3 SD 3.0 and 13.5 SD 3.9 min respectively). The mean value of maximum decrease in systolic blood pressure was small, being less than 15% of the pre-operative value for each group. In conclusion, the effect of diluting isobaric 0.5% bupivacaine with cerebrospinal fluid, 1 ml and 2 ml, is minimal and it is an unnecessary procedure with limited clinical effect.