TITLE: **BEST PULMONARY FUNCTION AFTER CHOLECYSTECTOMY WITH INTRAPLEURAL ANALGESIA**

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High abdominal surgery including cholecystectomy has long been known to induce significant alteration in respiratory function. Although parenteral opioids have been used extensively for postoperative analgesia they are far from ideal. To diminish the effect of abdominal surgery on pulmonary function and to bring adequat analgesia, several other methods have been advocated (1,2,3). The purpose of this study was to investigate the efficacity of intrapleural bupivacaine in the management of postoperative pain in patients undergoing elective cholecystectomy, to evaluate its effects on pulmonary function and to compare it to intramuscular demerol. We also wanted to evaluate the incidence of pneumothorax with a new closed chest technique for intrapleural catheter placement.

Forty-two patients undergoing elective cholecystectomy were randomly selected to receive either bupivacaine-epinephrine via an intrapleural catheter installed by a closed chest technique(Group 1=22 patients)or demerol intramuscularly (Group 2=20 patients). The intensity of pain was evaluated by a visual analog (VAS) preoperatively as well as 2,8,24,48 hours postoperatively. At the same time, FVC and FEV1.0 measurements were obtained for all patients. Additionnally, patients of Group 1 had a chest X-ray done in the recovery room.For statistical analysis between groups, analysis of variance with repeated measures was used. P-value <0.05 was considered significant.

Patients of Group 1 had a better postoperative analgesia with VAS of 0.6, 1.1, 0.6 and 0.8 compared to 5.2, 5.8, 5.5 and 4.5 for Group 2 ($p<0.001$). The decrease of FVC was less in Group 1 than in Group 2 by 22 to 32% ($p<0.005$) (fig.1). The changes in FEV1.0 of Group 1 was also less than the one of Group 2 by 25 to 38% ($p<0.001$) (fig.2). No patients of Group 1 had a pneumothorax.

We conclude that intrapleural bupivacaine is a useful technique that offers analgesia after a cholecystectomy, that it reduces the loss of FVC and FEV1.0 in comparaison to intramuscular demerol and that the catheter can be inserted safely using the close chest technique.

References
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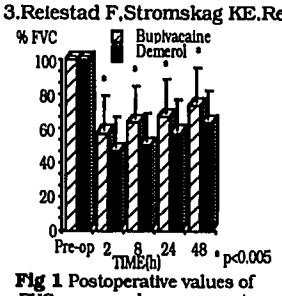

Fig 1 Postoperative values of FVC expressed as a percentage of the preoperative values Group 1 is significantly different from Group 2.

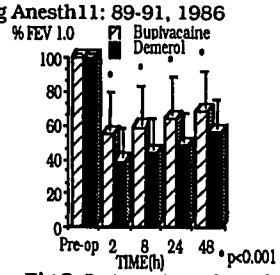

Fig 2 Postoperative values of FEV1.0 expressed as a percentage of the preoperative values. Group 1 is significantly different from Group 2.

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TITLE: SPINAL ANESTHESIA WITH 3ML OF 0.125% BUPIVACAINE FOR ORTHOPEDIC PROCEDURES IN ELDERLY PATIENTS.

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Arterial hypotension is the main complication of spinal anesthesia. A-fibres (sensory and motor) are blocked at lower concentrations of bupivacaine (B) than B-fibres (sympathetic)1. The aim of this study was to evaluate the quality of analgesia and the hemodynamic effects of low doses of dilute bupivacaine administered for spinal anesthesia in elderly patients.

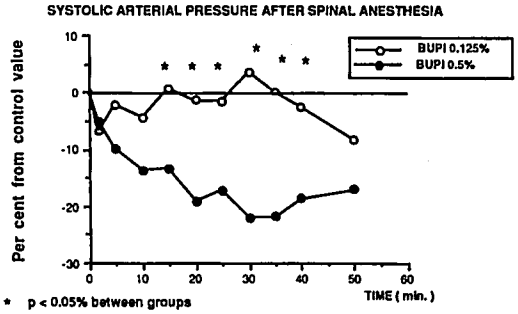
After obtaining institutional approval and informed consent 24 elderly patients who underwent orthopedic operations for repair of fracture of the lower limbs were randomly assigned to one of two groups. After infusion of 500 ml of Ringer's Lactate solution in 20 min, patients were placed in the lateral decubitus position with the fractured limb uppermost. Spinal anesthesia was performed with a 18G pencil point needle and a 22G catheter was inserted 3 cm intrathecally. Group H (n=12) received 3ml of 0.5% plain B, and Group L (n=12) 3 ml of 0.125% B obtained by diluting 0.5% of plain B with the patient's CSF. B. was injected intrathecally over 9 sec. Following spinal anesthesia 6ml/kg/h of cristalloids were infused. The maximum upper cutaneous level of anesthesia was assessed by pin-prick. Arterial pressure, heart rate were recorded at 2 min and every 5 min thereafter until the end of the procedure. Ephedrine 3mg was administered as necessary by the attending anesthetist. Quality of motor block was assessed by the surgeon as 0 = no and 3 = complete motor block. If analgesia was inadequate 1ml of the previous solution was administered as needed. Results are expressed as mean ± SD, statistical analysis included ANOVA for parametric data and Mann-Whitney U-test for non-parametric data.

Analgesia was adequate in every patient during the entire procedure and top-ups were required only because of a shorter duration of sensory block in group L (Table). For a similar upper level of analgesia the decrease in systolic arterial pressure was more pronounced in group H than in group L from 15 to 40 min after spinal anesthesia (Figure). The mean dose of ephedrine was ten fold higher in goup H than in group L (Table).

In summary our results show that spinal anesthesia with 3 ml of 0.125% bupivacaine produces a good analgesia for orthopedic procedures with minimal hemodynamics changes.

GROUP	AGE (yrs)	LEVEL OF ANALGESIA	MOTOR BLOCK	DURATION OF 3 ml OF B. (min)	MEAN DOSE OF EPHEDRINE (mg)	MEAN DOSE OF BUPI (mg)
L	84.4 ± 5.6	T4-T12	0-3	80.4 ± 31.2*	1.1 ± 2.8	4.8 ± 1.3
H	78.8 ± 8.0	T2-T10	3	113.3 ± 37.2	10 ± 11.3	16.7 ± 3.2

* p < 0.05 between groups



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