74. Low plasma concentration of levobupivacaine after continuous intraperitoneal infusion following abdominal hysterectomy

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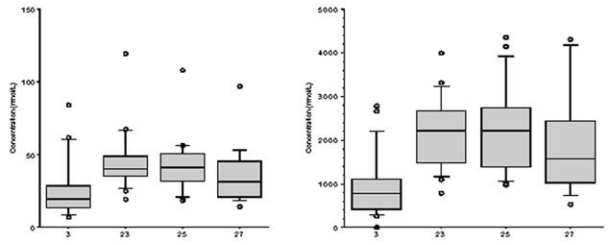
Background: Techniques for continuous pain relief using local anesthetic (LA) infusions are increasingly becoming popular during the postoperative period. Levobupivacaine has been used over several years but plasma concentrations during continuous infusions are poorly documented. This study was done to assess plasma concentrations (total and free) of levobupivacaine during continuous intraperitoneal infusion.

Methods: 40 patients undergoing hysterectomy were studied following ethics committee approval. At the end of the operation, a catheter was inserted intraperitoneally and an infusion started with levobupivacaine 5 ml/h (12.5 mg/h)(Group L) or NaCl (Group P) during 24 h. Twenty ml of this solution was also injected subcutaneously to prevent incisional pain. Venous blood (7 ml) was taken in heparinized tubes after 3, 23, 25 and 27 h to measure the total and free plasma concentration of levobupivacaine using chromatography.

Results: Pain as measured by VAS was less during 1-2 h postoperatively in Gp L. PCA ketobemidone requirements were less during 4-24 h in Gp L. Plasma concentrations of levobupivacaine are shown in Fig 1 and 2. The median (range) total and free concentration of levobupivacaine obtained after 23 h infusion was 2208 (789 – 3998) nmol/L and 40.3 (19.3 – 119.5) nmol/L. No clinical evidence of local anesthetic toxicity was seen in any patient.

Fig 1. **Fig 2.**



Conclusions: Plasma concentrations (total and free) of levobupivacaine were well below those that could be considered as toxic for bupivacaine in humans. Used in a dose of 12.5 mg/h (total 390 mg in 24 h), levobupivacaine can be considered to be safe in humans.

75. Intravenous regional anesthesia (IVRA) during hand surgery. The effects of ropivacaine and clonidine on perioperative pain

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Introduction: The aim of this study was to determine whether ropivacaine, a long-acting local anesthetic, with or without clonidine as adjuvant can provide better intra-operative conditions as well as prolong postoperative analgesia following hand surgery performed under IVRA, in comparison with prilocaine.

Methods: 39 patients undergoing operation for Dupuytren's contraction (DC), and wrist arthroscopy were allocated to three groups. Group I (n =13) received 40 ml of prilocaine 0.5 % + 1 ml of saline, Group II (n = 13) received 40 ml of ropivacaine 0.2 % + 1 ml saline, and Group III (n = 12) received 40 ml ropivacaine 0.2 % + 1 ml (150 μg) of clonidine. Sensory block was recorded by pin-prick. Pain during and after the operation was evaluated by Visual Analogue Scale (VAS) 0-10 cm. The amount of ad-ditional analgesics and sedatives administered during the procedure and during 4 hours postoperatively was recorded. Orally administered analgesics were registered during the first 7 postoperative days.

Results: One patient was given general anaesthesia due to intraoperative pain. No sig-nificant differences were found in the tourniquet times or drug requirements during the operation. There were no significant differences in onset or regression of the sensory block of the radial, ulnar or median nerves. Postoperative VAS was significantly lower at rest in Groups II and III compared with Group I during 60-120 minutes at rest. On movement, patients in Group III had significantly lower VAS-scores than those in the Group I during 40-120 minutes (Fig 1; median and IQR). No patients in Group III re-quested morphine compared with 7 patients in Group I ($p < 0.05$). Patients in Group III had significantly lower systolic blood pressure from 40 minutes to 3 hours postopera-tively. However, there was no significant difference in systolic blood pressure between the groups during mobilization 1 h after tourniquet release.

Conclusions: The addition of clonidine 150 ug to ropivacaine during IVRA results in improved postoperative analgesia and decreased morphine requirements compared to prilocaine alone. Mild hypotension was seen in these patients but this did not prevent mobilization.