212. Changes in acral perfusion by local anesthetics: a double-blinded, randomised, placebo-controlled study

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Introduction: Vascular effects of local anesthetics are of major interest. Acroanesthesia has to ensure a sufficient perfusion of the extremities, for the operative manipulations have to be compensated. Data on the vasomotion under Ropivacaine are controverse. Therefore, Ropivacaine or addition of epinephrine has been evaluated in acroanesthesia on fingers.

Methods: The study design was prospective, double-blinded, placebo-controlled and randomised. Following Oberst' method of block anesthesia, perfusion of the fingertips was assessed by Laser Doppler Flux (LDF [AU]) over a period of 24 hours in 20 patients without circulatory disorders (11 men, 9 women, mean age 22,9 years). The injections applied to the treatment sites each contained 6 ml of Ropivacaine 7.5 mg/ml (A), Lidocaine 1% without (B) and with addition of epinephrine 1:200000 (C). As placebo treatment 6 ml of isotonic saline solution were used. Computeraided measurements were conducted simultaneously on D II and D IV on both hands.

Results: The results show the values of LDF before (1), 15 minutes after injection (2), after 6 hours (3) and 24 hours (4). (A) (1): 25.2 standard deviation (SD) 22.1, (2): 43.7 SD 29.2 ($p<0.02$), (3): 61.9 SD 45.7 ($p<0.001$), (4): 37.7 SD 16.6 ($p=0.06$). (B) (1): 30.4 SD 23.7, (2): 34.8 SD 22.1 ($p=0.57$), (3): 37.8 SD 28.2 ($p=0.4$), (4): 52.2 SD 35.7 ($p<0.05$). (C) (1): 39.1 SD 52.1, (2): 12.7 SD 9.7 ($p<0.03$), (3): 24.7 SD 15.6 ($p=0.2$), (4): 46.9 SD 34.5 ($p=0.6$). (D) (1): 30.4 SD 32.4, (2): 22.2 SD 23.4 ($p=0.07$), (3): 47.8 SD 39.9 ($p=0.2$), (4): 41.0 SD 25.6 ($p=0.17$).

Conclusion: Though experimental approaches showed a vasoconstriction under the use of Ropivacaine, there seems to be no clinical relevance. The injection of Ropivacaine lead to a prolonged vasodilatation that was detectable over a period of 24 hours. In comparison, the vasodilative effect of Lidocaine in the applied concentration and dose was much lower. Still, Lidocaine has a vasodilative effect which was evident in the comparison with the placebo. Addition of epinephrine to the Lidocaine injection showed a temporary decrease in perfusion, that was no longer detectable after 6 and 24 hours. This passing perfusion impairment also occured in the placebo injection. In conclusion, the use of Ropivacaine in acroanesthesia is safe. A vasodilatation is detectable up to 24 hours after block anesthesia. Our data also suggest that addition of epinephrine to the Lidocaine injection in the above mentioned concentration and dose is a safe and feasable method of acroanesthesia.

224. Is peribulbar block safe and efficient for vitreoretinal surgery in outpatients?

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Introduction: Peribulbar block (PBA) for outpatient's cataract surgery, but prolonged and more painful vitreoretinal (VR) operations may cause patient's discomfort, pain and PONV. The aim of the study was to evaluate safety and efficacy of PBA for VR surgery in outpatients.

Methods: We reanalyzed 209 consecutive patients who underwent elective VR outpatients surgery in PBA. Evaluated data were quality of anesthesia and akinesia, frequency of supplemental before surgery, intraoperative discomfort/pain, incidence of intraoprative sub-tenon block, coscious sedation or analgosedation, duration of operation, anesthetic complications, incidence of PONV, pain and hospital readmission. Postoperative pain intensity (descriptive scale: no pain, mild, moderate, severe) was reported on the phone. We also evaluated demographic characteristics, preoperative comorbidity, ophthalmic diagnosis, type of surgery, surgical conditions and patient's satisfaction. Postoperative pain therapy included combination of methamisol and paracetamol. Tramadol and acetazolamid were rescue treatment of severe pain. PONV was prevented and treated with ondansetron.

Results: The mean age (female 37.8%, male 62.2%) (x2-test; $p=0.001$) was 47+/−10 (17-92), ASA I (25.9%0, ASA II (25.3%), ASA III ((48.8%) (x2-test;$p=0.000$). Ophthalmic diagnoses were retinopathia diabetica (52.9%), nondiabetic vasculopathia (4.1%), rhegmatogenous retinal detachment (30.6%) and ocular trauma 12.4%) (x2-test; $p=0.000$). Operative procedures included vitrectomy (37.7%), retinopexy with vitrectomy (27.9%), vitrectomy and phacoemulsification (21%), vitrectomy with kerathoplasty (1.9%), silicon oil reimplantation (8.7%) and scleral buckling (2.8%) (x2-test;$p=0.000$).Supplemental PBA was added in 8.7% (x2-test; $p=0.000$). Average operative time was 71.6 +/− 35 min (range 35-180); intraoperative discomfort was correlated with the duration of operation. Intraoperative sub-tenon was used in 11.9%, conscious sedation in 64.1% and analgosedation in 22.4% (x2-test;$p=0.000$.There were no significant local anesthetic complications. Postoperative discharge from hospital was delayed in 4.3% and 1.4% were readmitted because of PONV and pain. The rest (197 patients) had mild/moderate pain (23.2%), moderate (62.2%) and severe pain (9.6%) at home (x2-test;$p=0.000$). Tolerable PONV was registered in 5.7% of patients.

Conclusion: PBA is a safe anesthetic technique for VR surgery in outpatients. It is well tolerated by patients and efficient in 88.1% and in 99% supplemented with sub-tenon block, conscious sedation or analgosedation. We recommend it in outpatient setting with coscious sedation, experienced surgeon and operative time less then 90 minutes.