

7. REMIFENTANIL VS. PROPOFOL FOR SEDATION FOR PERI-RETROBULBAR BLOCK FOR CATARACT SURGERY

Boezaart, A.P.; Berry, A.R.; Nell, M.L.; van Dyk, A.L. Anesthesiology, MediClinic Hospital, Paarl, South Africa

Study Objectives: To compare clinical conditions in patients sedated with propofol or remifentanil during combined peri- and retrobulbar block (PRBB) for cataract surgery.

Methods: One hundred and six patients with an ASA 1 or 2-health status who were scheduled for cataract surgery were studied. Patients were prospectively randomized to receive either 0,5 mg/kg propofol (group P) or 0,3 mg/kg remifentanil (group R) as an intravenous bolus 1 minute prior PRBB as previously described [1,2]. Patients in both groups also received 0,5 - 1mg midazolam – 0.5 mg if older than 80 years and 1 mg if younger than 80 years. Obviously frail patients also received 0.5 mg midazolam. Movement of the hands, arms, head and eyes, were counted for each stage of the procedure by an unbiased observer blinded to the sedation used. Heart rate, blood pressure, respiration rate, expiratory CO₂ (PECO₂) and hemoglobin oxygen saturation (SaO₂) were recorded every minute for ten minutes after the PRBB. Anesthetic complications, recall and the pain experienced with the block and surgery were compared between the two groups. Means and variance of the results were compared with one-way analysis of variance and Fisher's exact test. A p-value of < 0.05 was regarded as statistically significant

Results: Movements of the hands, arms and head were significantly more in the propofol group during all stages of the block. Almost no movements were recorded in the remifentanil group. Immediately after the PRBB (1 - 6 minutes) the heart rates were faster in the propofol group (73 ± 11 vs. 67 ± 10 ; $p = 0.0075$), while the respiration rates were slower in the remifentanil group for the period 1 - 5 minutes after the PRBB (16 ± 5 vs. 14 ± 4 ; $p = 0,0206$). At these times the mean PECO₂ was higher in the remifentanil group ($4,84 \pm 1.06$ vs. $4,27 \pm 1.15$ kPa: $p = 0,0125$). Nineteen patients in the propofol group sneezed during the medial peribulbar injection compared with none in the remifentanil group. Anesthetic and surgical complications were unremarkable and similar for the two groups.

Conclusions: Respiratory depression with remifentanil was mild and not clinically significant. Remifentanil sedation for this application was superior to sedation with propofol.

1. Galindo A: Peri-retrobulbar anesthesia, a special technique and needle design. In: Gills JP, Husted RF, Saunders DR (eds): *Ophthalmic Anesthesia*. New York: SLACK Inc., 1993: 125 - 7.

2. Boezaart AP, Berry AR, Laubscher JJ, Nell ML: Evaluation of anxiolysis and pain with combined peri- and retrobulbar block for cataract surgery. *J Clin Anesth* 1998; 10: 204 - 10.