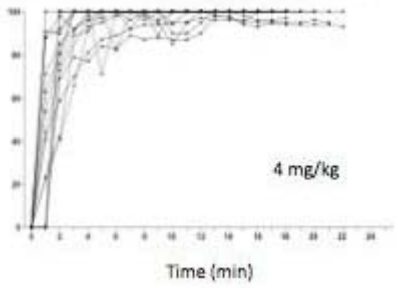

[Individual evolution of T4/T1 ratio]

Conclusion: In morbidly obese patients, 4 mg/kg of ideal body weight of sugammadex allows reversal of profound neuromuscular blockade induced by rocuronium in less than 10 minutes. Monitoring remains mandatory to detect residual curarization or recurarization.
References: Llauradó S. Anesthesiology 2012;117:93-8.

1AP5-2

Clinical use of electromyography to monitor neuromuscular function

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Background and Goal of Study: Intraoperative use of neuromuscular monitors (NMMs) decreases residual weakness and critical respitatory events (1). However, a majority of anaesthesiologists do not use NMMs routinely. Limitations of current NMMs that rely on the ability of muscles to move (eg, accelerographs) explain the lack of universal adoption. We tested the clinical applicability of a new electromyography (EMG)-based NMM. This unblinded, single-centre, prospective and registered clinical investigation examined the prototype of a hand-held, battery-operated, quantitative, EMG NMM (TetraGraph, Acacia Designs BV, Amsterdam, Holland).
Materials and Methods: After local IRB approval 50 consenting patients (aged 52±14 y, male:female=10:40, BMI 28±5) were enrolled. They received neuromuscular blocking agents (NMBAs) for elective surgeries. Data were collected throughout the surgical procedure, from induction of anaesthesia until tracheal extubation. Intraoperative data were not available to the investigators, who relied on subjective evaluation, as per current clinical routine. EMG data were recorded continuously, and were downloaded for off-line evaluation. The ulnar nerve was stimulated with a train-of-four (TOF) pattern at the wrist via surface electrodes using a current of 30 mA, 0,2 msec pulse duration, frequency of 2 Hz every 20-sec. EMG data were recorded at the abductor digiti minimi muscle. A set of 3-10 successive TOF EMG responses were recorded prior to administration of NMBAs, and was continued until complete reversal. Data were analysed *post hoc* regarding applicability (ease of use, safety), repeatibility and performance (signal quality and accuracy, consistency with clinical findings, noise level).
Results and Discussion: The number of BASELINE TOF recordings was between 3-10 in each patient (Table). For the 20 patients analysed, the average baseline TOF ratio was 103.75±3.3% (range 98.0-111.10%). The recorded EMG shows 4 equal responses at baseline TOF (Fig 1); fade of TOF during block onset (Fig 2); full onset and recovery curve of TOF ratio (Fig 3). No perioperative adverse events were observed.
Conclusion(s): The EMG-based TetraGraph NMM can record evoked muscle action potentials. These data (T1, T4, TOF) can be used clinically to assess the effects of muscle relaxants on neuromuscular transmission (onset, duration and recovery from neuromuscular block).
References: Murphy GS et al. Anesthesiology 2011;115:946-54.

1AP5-4

The effects of reversal of neuromuscular blockade with sugammadex and neostigmine on intraocular pressure, hemodynamic response and recovery for ophthalmological surgery

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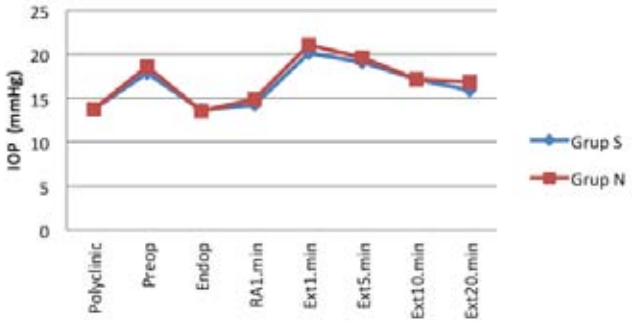
Background and Goal of Study: For the anaesthesia in ophthalmological surgery, it is recommended to choose anaesthetics and techniques which do not increase intraocular pressure(IOP), moreover those decrease IOP. Sugammadex is a new alternative reversal agent. We couldn't find any study about sugammadex and ophthalmological surgery and intraocular pressure. In this study, our objective was to compare the effects of sugammadex and neostigmine-atropine combination on IOP, hemodynamic response and recovery in ophthalmological surgery.
Materials and Methods: This study was performed at University Hospital after acquiring ethic committee approval of the instutition. 60 Patients with normal IOP, who was going to undergo unilateral ophthalmological surgery under general anaesthesia, (estimated surgery time 30-90 minutes) between the ages of 18-80, ASA physical status I-II, with no renal or liver insufficiency, body-massindex< 30, and no history of allergy to any of the study drugs were included to the study. Patients were divided into 2 groups (Group S: Sugammadex, Group N: Neostigmine-atropine) randomly. A standart anaesthesia induction and maintainance was performed. For the reversal of neuromuscular blockade, 2 mg/kg iv Sugammadex was administered to Group S and 0,05 mg/kg iv neostigmine and 0,02 mg/kg atropine was administered to Group N. IOP was recorded preoperatively, after the surgery, 1 minute after the reversal agent and on the 1st, 5th, 10th, 20th minutes after extubation with Tono-Pen AVIA Aplation Tonometer Device.
Results and Discussion: Age, gender, ASA status, BMI, surgery characteristics, the durations of anesthesia and surgery were similar between groups. In Group S, there was no statistically significiant difference for IOP after the surgery and 1 minute after the reversal drug (p=0,313) however in Group N, the difference was significant (p=0,045). Modified Aldrete Scores were significiantly higher at Group S. We observed that these 2 agents have similar effects on IOP, but the IOP 1 minute after reversal agent was higher at Group N.
Conclusion(s): This situation supports that sugammadex may be a secure alternative drug for patients with glaucome by means of providing a stabile IOP. Since our patients were without glaucome, we suggest repeating a similar study in patients with glaucome which will be helpful for evaluating the role of sugammadex in ophthalmological anaesthesia.



[IOP]