Effects of Atracurium and Pancuronium on Intraocular Pressure

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INTRODUCTION:

Cataract is an opacified lens and senile cataract is a common disorder (1). It is desirable to reduce intraocular pressure (IOP) in order to minimize intra and post operative difficulties and complications (2). Many researches studied the effects of muscle relaxants on IOP. Comparison effect of atracurium and pancuronium on IOP has been evaluated in one study with a small sample size (N=20) (3). In this research we compared the effects of atracurium and pancuronium on IOP in patients undergoing cataract surgery.

METHODS:

In a clinical trial study, ninety patients, ASA I, candidate for senile cataract surgery were randomly selected to receive either atracurium 0.5mg/kg or pancuronium 0.1mg/kg with fentanyl 2μ g/kg and thiopental 5mg/kg for induction of general anesthesia.

Before induction and 3 minutes after endotracheal intubation the IOP in both eyes was measured using schiotz Tonometer. Data were analyzed using T- paired and chi square test.

RESULTS:

There were no differences between two groups in order to demographic data. In atracurium group, the IOP didn't have any significant changes (P in right eye= 0.99 and in left eye= 0.60 vs. before induction). Three minutes after endotracheal intubation the Mean IOP decreased in pancuronium group 2.98 ± 3.25 and 2.56 ± 3.51 mmHg in right and left eyes respectively (P=0.000 vs. before induction in both eyes).

DISCUSSION:

In one study (3) pancuronium has not any effect on IOP, but according to our data, pancuronium can decrease IOP in patients undergoing cataract surgery. This controversy may be due to small sample size in previous study. So it is safe to use pancuronium and atracurium in general anesthesia for ophthalmic surgery.

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KEY WORDS:

Cataract, Atracurium, Pancuronium, Intraocular pressure (IOP).