

Format: Abstract

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Intraocular pressure changes in response to endotracheal intubation facilitated by atracurium or succinylcholine with or without lidocaine.

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Abstract

Changes in intraocular pressure (IOP) and hemodynamics (SP, DP and HR) were measured in 105 patients ASA I and II randomly assigned into seven equal and comparable groups (A to G) during induction of anesthesia and **endotracheal intubation** facilitated either by succinylcholine or atracurium with or without lidocaine. IOP decreased significantly (p less than 0.01) after induction of anesthesia with thiopentone in all the groups. While atracurium with or without lidocaine did not affect IOP following complete suppression of train-of-four (groups A, B, and C), succinylcholine per se or in combination with lidocaine (groups F and G) significantly (p less than 0.01) increased IOP after induction with thiopentone but not exceeding the baseline IOP level. IOP was significantly elevated (p less than 0.01) immediately after **endotracheal intubation** in all the groups when compared to IOP following thiopentone administration. In those patients given atracurium (groups A to E), IOP increased (p less than 0.05) in response to **endotracheal intubation** above the baseline level only in group B where atracurium was divided into a priming and intubating doses. However, the priming dose did not have any significant effect on the onset time of complete twitch suppression of train-of-four and did not affect the **intubation** conditions compared with the uniformly excellent conditions found with atracurium over an equivalent bolus dose of the relaxant. In patients who received succinylcholine only (group F), IOP immediately after **endotracheal intubation** was significantly greater (p less than 0.01) as compared to the baseline and did not return to the baseline level until 3 minutes after **endotracheal intubation**. The use of lidocaine in combination with atracurium (group D) or succinylcholine (group G) for a rapid sequence **intubation** did not affect IOP following **endotracheal intubation**. However, atracurium when used in a rapid sequence **intubation** could not produce similar **intubation** conditions when compared with succinylcholine. Consequently, we cannot endorse atracurium as an alternative to succinylcholine for patients with penetrated eye injuries and full stomach requiring rapid sequence intubations. In this context, the role of IV lidocaine in mitigating or preventing the systemic and ocular reactions and especially the acute increase in IOP associated with **endotracheal intubation** should be emphasized.

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