Optimal Pre-Intubation Timing of Fentanyl

Laryngoscopy and intubation cause a rise in blood pressure that may harm patients with elevated intracranial pressure or ischemic heart disease (IHD). Although fentanyl has been proven to mitigate this response, the drug's optimal timing relative to intubation has not been established. These Korean researchers randomized 170 ASA class I and II surgical patients aged 20 to 65 to receive 2 mg/kg of IV fentanyl 1, 3, 5, or 10 minutes before intubation. A control group did not receive fentanyl.

Patients were not premedicated. Those with conditions including IHD and CNS disease were excluded, as were another 15 patients because of prolonged laryngoscopic attempts. The remaining 155 had peak BP 1 minute after intubation. When compared with pre-intubation values, the 3-minute fentanyl group had no significant change in systolic BP and a mild increase in diastolic BP. The 5-minute group had no significant change in systolic or diastolic BP. In contrast, the other three groups had significant increases in BP. The incidence of hypertension (mean arterial BP greater than 130% of baseline) was significantly lower in the 3-, 5-, and 10-minute groups than in controls. Adverse effects were similar and mild in all groups.

Comment: Mean arterial BP, perhaps the most important of these parameters, did not increase over baseline in either the 3- or 5-minute groups. Although the authors advocate 5 minutes as the optimal time for pre-intubation fentanyl, almost identical benefit was reported at 3 minutes. Therefore, this study validates the current recommendation for administration of 3 mg/kg of fentanyl 3 minutes before pushing succinylcholine during rapid sequence intubation.

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