

EEG-Bispectral Index Monitoring of Midazolam-Ketamine Anesthesia.

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摘要

Abstract

BACKGROUND: The EEG-Bispectral Index (BIS) is a processed EEG information that has been validated as a means to measure the hypnotic effect of anesthetic drugs. In this study we evaluated the BIS changes in induction of anesthesia with ketamine in comparison with that of thiamylal. **METHODS:** Forty ASA class I and II adult female patients undergoing elective gynecologic surgeries were enrolled into this randomized, prospective study. No premedication was given to the patient. In each patient EEG was recorded continuously from the frontal electrodes using Aspect A-1050 monitor after his arrival at the operating room. Blood pressure and heart rate were also recorded throughout the surgery. After steady baseline recordings of all necessary parameters having been accomplished Group K patients (n = 20) were given an induction dose of ketamine 1.5 mg/kg i.v., whereas Group T patients (n = 20) received thiamylal 5 mg/kg i.v. When loss of consciousness was ascertained, intubation was performed after administration of succinylcholine 1 mg/kg i.v. and anesthesia was maintained with isoflurane-nitrous oxide-oxygen. Demographics, BIS values, HR, BP were analyzed and compared. **RESULTS:** The demographics were comparable between the two groups. Both groups showed a mean value of BIS of 96 with comparable BP and HR before induction. After study drug the post-induction BIS for ketamine was 94 as against 51 for thiamylal ($P < 0.05$), 91 against 43 post-succinylcholine ($P < 0.05$), 92 against 53 post-intubation ($P < 0.05$) and 45 against 37 five min after isoflurane. BIS remained below 60 throughout the entire course of anesthesia and returned to above 95 on emergence in both groups. None of the patients reported awareness, recall, delirium or hallucination during anesthesia. **CONCLUSIONS:** Ketamine-induced dissociative anesthesia produces persistently elevated BIS index which is different from thiamylal and those reported with other conventional anesthetic agents. The established range of BIS index appears not to be applicable in patients under ketamine anesthesia. Monitoring the depth of ketamine anesthesia remains to be a challenging problem.