Comparative of hemodynamics and recovery of sevoflurane and isoflurane anesthesia in Chinese adult patients.

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摘要

Abstract

BACKGROUND: The new inhalational anesthetic sevoflurane would be expected to provide a rapid emergence from anesthesia due to its low blood/gas partition coefficient. In this study, we compared the hemodynamic effects, speed and quality of emergence, in ASA class I-II Chinese adult surgical patients receiving either sevoflurane or isoflurane anesthesia. METHODS: Eighty adult Chinese patients, ASA class I-II, scheduled for elective gynecological or general surgical procedures, were randomized to receive sevoflurane (n = 40) or isoflurane (n = 40) anesthesia. Ventilation is controlled via endotracheal intubation with anesthesia facilitated by either agent at anesthetic concentration of 1-1.5 MAC under the fresh gas flow 2 L/min. Heart rate, arterial blood pressure, temperature, SpO2 and end-tidal CO2 were continuously monitored. Any adverse effect such as airway irritation, nausea or vomiting was recorded during induction and emergence from anesthesia. The emergence time was assessed by various questionales for orientation during recovery. In the post-anesthetic recovery period, pain was monitored and managed by objective pain discomfort scale for analgesic supplements. Complaints of nausea and vomiting were recorded and followed up by a research nurse who visited the patient within 24 h following surgery. RESULTS: The extent of exposure to anesthetic (MAC x hours) was similar in both groups. Sevoflurane and isoflurane caused similar alterations in systolic and diastolic arterial pressure during maintenance. After surgical incision, the heart rate accelerated more in patients receiving isoflurane ($p < 0.05$). During emergence, time of response to command was significantly shorter in patients receiving sevoflurane than patients receiving isoflurane (5.6 +/- 0.4 min versus 15.2 +/- 3.0 min, $p < 0.001$). Side effects such as nausea and vomiting were comparable in both groups. CONCLUSIONS: Compared with isoflurane, sevoflurane anesthesia had the clinical advantages of maintaining stable hemodynamics and rapid recovery in Chinese adult patients.