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Abstracttitel: Isocapnic Hyperpnoea And Recovery Time After Anesthesia With Isoflurane Versus Sevoflurane

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**INTRODUCTION:** Isocapnic Hyperpnoea (IH) shortens recovery from isoflurane-based anesthesia for brief ambulatory orthopedic surgery and reduces operating room (OR) and post anesthesia care unit (PACU) recovery after longer sevoflurane-based gynecological procedures. To compare the effects of IH on recovery from isoflurane and sevoflurane anesthesia we studied the effect of IH on both drugs in the same patient population undergoing a similar surgical procedure.

**METHODS:** After REB approval and consent we studied 26 ASA I-III patients undergoing elective gynecological surgery. Patients arrived to the OR without premedication. Immediately before induction patients were randomized to Isoflurane or Sevoflurane group. They received a standardized anesthesia (propofol, fentanyl, rocuronium), followed by endotracheal intubation. Maintenance of anesthesia was with one of the study inhalation agents in air/oxygen mixture. Fentanyl and rocuronium were supplemented as clinically indicated. At the end of the surgery patients received IH at 2-3 times their intra-operative minute ventilation. We recorded time intervals from turning off the inhalation agent to a) resumption of spontaneous ventilation, b) opening of eyes to command, c) extubation, d) awake and eligible to leave the OR, e) the time the first postoperative medication was given and f) eligibility for PACU discharge.

**RESULTS:** 11 patients were randomized to Isoflurane and 15 to Sevoflurane group. There was no difference in age and BMI between the groups ( $48 \pm 14.1$  vs  $47.9 \pm 13.7$  years,  $p=0.9$ ;  $24.7 \pm 3.5$  vs  $28.8 \pm 8$  kg/m<sup>2</sup>,  $p=0.16$ ) The time for initiation of spontaneous breathing ( $3.5 \pm 2.0$  vs  $4.2 \pm 1.7$ ,  $p=0.35$ ), opening eyes ( $5.8 \pm 1.4$  vs  $5.5 \pm 1.4$ ,  $p=0.64$ ), extubation ( $6.3 \pm 1.6$  vs  $6.2 \pm 2.1$ ,  $p=0.89$ ), leaving OR ( $8.2 \pm 1.5$  vs  $7.7 \pm 2.0$ ,  $p=0.65$ ) and eligibility for PACU discharge ( $75 \pm 15.6$  vs  $67.2 \pm 19.3$ ,  $p=0.31$ ) were similar in both groups (Table 1).

**DISCUSSION AND CONCLUSION:** We have previously shown that IH results in faster recovery from sevoflurane anesthesia and reduction in OR and PACU stay. Despite differences in cost, blood solubility and expected recovery times for isoflurane vs. sevoflurane, IH affects recovery from these anesthetics to the same extent.