

TITLE: DESFLURANE VS. ISOFLURANE:
Intubating Conditions and Related
Hemodynamic Response

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Introduction: Desflurane (DES) is a new inhalational anesthetic; its low solubility promotes rapid induction. The objective of this study was to compare intubating conditions and hemodynamic response to intubation of equipotent concentrations (1.7 MAC) of DES and isoflurane (ISO).

Methods: 24 ASA Class I-II patients gave informed consent to participate in this IRB approved study. After premedication with midazolam 0.02-0.08 mg/kg IV, anesthesia was induced with thiopental 4-8 mg/kg IV, followed by administration of DES (n=12) or ISO (N=12) with the mixture of O₂ and N₂O by face mask in a 40:60 ratio. Concentration of DES or ISO was adjusted until end tidal concentration reached 11% for DES and 2% for ISO. The trachea was intubated and intubating conditions were rated as excellent for full relaxation of vocal cords, good for a slight movement of cords and poor for bucking and movement. Blood pressure and heart rate were recorded immediately before and at 1, 2, and 4 minutes after intubation.

Results: Figure 1 shows that greater number of patients had excellent intubating conditions with DES.

Figure 2, demonstrates the hemodynamic response to laryngoscopy and intubation to be similar for both agents.

Discussion: This study shows that DES provided good to excellent intubating conditions as compared to ISO, reflecting its adequate anesthesia and relaxation. Both agents at the 1.7 MAC level effectively suppressed the tachycardia and hypertension response to laryngoscopy. DES appears to be at least as effective as ISO under these circumstances.

Figure 1

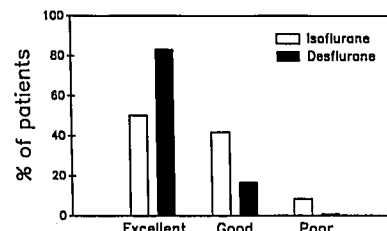
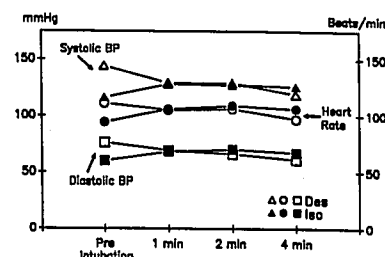


Figure 2



TITLE: INITIAL EVALUATION OF ONDANSETRON
- A NOVEL ANTIEMETIC

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Nausea and vomiting are among the most common complications after general anesthesia. Many of the widely used antiemetics have side effects which limit their clinical usefulness. Ondansetron (GR-38032F, Glaxo), a carbazalone derivative with 5-hydroxytryptamine₃ receptor blocking activity, has been used to treat chemotherapy-induced emesis. This study was designed to evaluate the safety and efficacy of ondansetron when used to treat postoperative nausea and vomiting.

71 healthy, consenting young women who developed nausea and vomiting after laparoscopic procedures were randomly assigned to receive either ondansetron, 8 mg iv, or the vehicle (placebo) according to an IRB-approved double-blind protocol. All patients received the same anesthetic technique consisting of alfentanil 25-50 ug.kg⁻¹ iv, thiopental 2-5 mg.kg⁻¹ iv, and succinylcholine 1-1.5 mg.kg⁻¹ iv, for induction and alfentanil 0.5-1.5 ug.kg⁻¹.min⁻¹ iv, succinylcholine 50-100 ug.kg⁻¹.min⁻¹, and 70% nitrous oxide for maintenance of anesthesia. If the patient developed persistent postoperative nausea and vomiting (lasting >10 min), they were administered 20 ml of the study medication over 3-5 min. Mean arterial pressure, heart rate and respiratory rate were evaluated before and at 0, 5, 10, 15, 30 and 60 min intervals after study medication. The number of emetic episodes and "rescues" with

conventional antiemetics were recorded. Nausea and sedation were assessed using visual analog scales (0=minimum to 100=maximum). The table and analyses include only those values obtained prior to "rescue" antiemetic. ANOVA and Chi-square tests were applied.

There were no significant differences between groups with respect to demographic data except for age (32 yr placebo vs. 29 yr ondansetron). After treatment, the ondansetron group had significantly lower nausea scores (Table 1). Of the ondansetron-treated patients, 49% experienced no subsequent emetic episodes, and 40% required a "rescue" antiemetic. Of the placebo-treated patients only 8% experienced no subsequent emetic episodes, and 81% required a "rescue" antiemetic. No differences were noted between groups in the cardiorespiratory variables or sedation scores.

In conclusion, ondansetron appears to be a safe and effective non-sedating drug for treating postoperative nausea and vomiting. Further studies are needed to determine the optimal dose for the treatment and/or prevention of postoperative emetic sequelae.

Table 1: Nausea and sedation visual analog scores (MPD)[†]

	Nausea		Sedation	
	Placebo	Ondans.	Placebo	Ondans.
Baseline	64±6	72±6	64±5	62±6
5 min	49±5(-12±5)	39±6(-30±6*)	66±5	69±5
10 min	48±6(-15±6)	31±6(-38±6*)	66±5	62±7
15 min	41±5(-21±6)	27±6(-43±8*)	70±5	59±7
30 min	46±6(-19±6)	30±7(-39±8*)	62±5	58±8
60 min	39±8(-22±7)	25±11(-43±8)	69±5	45±7

* Significantly different from placebo, p<0.05 (mean±SEM)

† MPD = Mean Paired Difference (mean±SEM)