

TITLE: DESFLURANE VS ISOFLURANE WITH OR WITHOUT N₂O FOR OUTPATIENT LAPAROSCOPY

Authors: K. Zahl, M.D., K. Prasad, M.D.,
M. Mingus, M.D., A. Shapiro, M.D.
Affiliation: Mt Sinai Med Ctr, Anes. NYC 10029

Desflurane (DES) is an investigational anesthetic that may be useful for ambulatory surgery due to its low blood gas solubility. The purpose of this study was to evaluate the safety, efficacy and recovery from anesthesia with DES or isoflurane (ISO) with or without N₂O for outpatient laparoscopy.

23 ASA Class I-II females undergoing outpatient tubal ligation were enrolled after IRB approval and written informed consent. Anesthesia was induced with fentanyl 2 mcg/kg, thiamylal until loss of lid reflex and succinylcholine. For maintenance, patients were randomly assigned to 4 groups: ISO; ISO in 60% N₂O (I+N); DES; or DES in 60% N₂O (D+N). Vecuronium was used for muscle relaxation.

Preoperatively baseline P Deletion (P-DEL) and Digit Symbol Substitution (DSS) tests were obtained. Postoperatively the times to eye opening, response to verbal command, orientation, ambulation (amb) and fitness for discharge (DC) were determined by a blinded research nurse. P-DEL and DSS were performed at 30, 60, 90 + 120 min. The incidence of analgesic use, nausea and vomiting (ESx) was determined. Chi-square was used for parametric statistics and a Kruskal-Wallis Test for non-parametric values (with a P < 0.05).

All groups had an equivalent mean age, times to

eye opening, orientation, amb and length of surgery. The DES group had the shortest DC time (P<0.05 see Table 1). The DES group had also the lowest incidence of ESx (P<0.05 see Table 2). The DES group also had the lowest incidence of ESx and best performance on P-DEL and DSS tests. Most patients in the other groups who had ESx could not perform the postop P-DEL and DSS tests precluding analysis of that data.

GROUP	DES	D+N	ISO	I+N
n=	6	6	6	5
Time to:				
eye opening	5.8 ± 1	8.2 ± 1.2	6.7 ± 1	4.4 ± 1.6
orientation	10 ± 2	10 ± 1	11 ± 1	8 ± 2
ambulation	146 ± 11	176 ± 29	168 ± 17	183 ± 35
discharge	153 ± 10	193 ± 27	204 ± 28	213 ± 35
(all times are in min ± SEM)				

GROUP	DES	D+N	ISO	I+N
Fentanyl in PARR	2/6	0/6	2/6	2/5
Nausea in PARR	0/6	5/6	4/6	4/5
Vomiting in PARR	1/6	3/6	3/6	3/5

When compared to the other groups the DES patients had the shortest DC time. This was possibly due to the lower incidence of emetic symptoms in the PARR. Our incidence of ESx with D+N, ISO or I+N is similar to that reported elsewhere for laparoscopy(1). N₂O may increase ESx (2). If the incidence of ESx with DES remains low in further trials, then DES may be used in place of ISO and/or N₂O for maintenance of outpatient anesthesia due to quick recovery.

References:

1. Pandit S, et al: Anesth Analg 70:S 293; 1990
 2. Melnick B, et al: Anesthesiology 67:982; 1987
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A12

Title: Therapeutic Role of Esmolol in Perioperative Hypertension in Ambulatory Surgery

Authors: I. Dimich, M.D., P. Singh, M.D.,
I. Sampson, M.D., V. Pratilas, M.D.,
and N. Sonnenklar, M.D.

Affiliation: Mt. Sinai Sch. of Med. and City
Hosp. Ctr at Elmhurst, New York

Esmolol (E), has been recommended for the treatment of acute hypertension (HTN). This study compares the efficacy and safety of E to labetalol (L) treating perioperative HTN in ambulatory surgery. Institutional review board approval and informed consent were obtained. 22 patients over seventy years undergoing elective cataract surgery under local anesthesia developed HTN. 16 had a history of HTN and 4 of these had received beta-blockers up till the day before. Perioperative HTN was defined as an SBP>200 mmHg and/or DBP>100 mmHg. Patients were randomized to receive either E (Group E) or L (Group L). E was given as a bolus 500 mcg/kg/min followed by maintenance infusion (150-300 mcg/kg/min). L was given as a bolus of 5 mg iv, followed by 5 mg increments up to a maximum of 1 mg/kg. Therapeutic response was defined as > 20% reduction in SBP and of DBP reduction to < 100 mmHg. Data were analyzed using paired t-test with p < 0.05 considered significant. Table I shows

hemodynamic data. In Group E, reduction in BP was accompanied by a significant decrease in HR. In 2 patients one of whom received beta-blocking drugs the previous day developed extreme bradycardia with E and it had to be temporarily discontinued. L reduced BP effectively, without significant fall in HR. Following L, BP remained stable and no prolonged effects were noted on discharge. In conclusion, E in doses ranging from 150-200 mcg/min/min was as effective as L (10-15 mg) in the treatment of HTN. E may produce significant bradycardia in elderly patients if HTN is not associated with tachycardia. Based on our experience, E offers no advantage over L; L is easier to administer and one-tenth the cost.

Table I	Esmolol	
	Baseline	Drug
SBP/mmHg	217±12.3	175±7.0 [†]
DBP/mmHg	102± 8.1	84±4.4 [†]
HR/b/min	81± 9.3	61±8.5 ^{††}
Responders		10/11
	Labetalol	
	Baseline	Drug
SBP/mmHg	218±11.6	174±12.5 [†]
DBP/mmHg	103±14.4	87±10.0 [†]
HR/b/min	78± 8.5	71± 6.3
Responders		10/11

[†]p<0.05 within group ^{††}p<0.05 between groups
Mean ± SD