

TITLE: A PROSPECTIVE EVALUATION OF EPIDURAL VERSUS GENERAL ANESTHESIA FOR OUTPATIENT ARTHROSCOPY

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Information regarding the use of epidural (EA) vs general anesthesia (GA) for outpatient arthroscopy is scarce. The purpose of this study, therefore, was to prospectively compare EA vs GA for outpatient arthroscopy by analyzing discharge time, incidence of side effects and patient satisfaction.

With HIC approval, 285 consenting knee arthroscopy outpatients were evaluated. The choice of EA or GA was determined in consultation with the patient. Specific anesthetic agents were at the discretion of the anesthesia team assigned to the case. Personnel unrelated to the study collected information regarding side effects [nausea/vomiting (N/V), pain, sore throat, muscle aches, backache, headache and urinary retention], and discharge times in the post-anesthesia care unit (PACU) and the 2nd stage outpatient recovery room (OPRR). They also made phone calls 24-48 hours postoperatively to assess late side effects and patient satisfaction, as well as the amount of pain medication received and the need for antiemetics. Student's t-test, the Mann-Whitney U-test and χ^2 were used, where appropriate, with significance set at $p < 0.05$. Of the 285 patients evaluated, 216 underwent GA and 69 received EA. The time to discharge in both the PACU and the OPRR was

significantly shorter in the EA group (Table 1). The incidence of pain was significantly less in the EA group (12% vs 35%), as was the need for treatment (11% vs 29%) in the PACU, but not in the OPRR, presumably due to treatment. In the EA group, the incidence of N/V was significantly less in both the PACU (3% vs 15%) and OPRR (6% vs 28%), as was the need for antiemetics in the PACU (0% vs 8%) and the OPRR (1% vs 12%). The other side effects studied showed no significant differences. Home follow-up indicated a significantly greater incidence in the GA group of sore throat (51% vs 2%) and muscle aches (26% vs 12%), and, in the EA group, of backache (43% vs 13%); with a trend toward a lower incidence of N/V in the EA group ($p < 0.1$). The need for analgesics at home, as well as the ability to ambulate, were similar in both groups. Anesthetic techniques were rated equally high (scale 1-10) in both the EA and GA groups (8.0 ± 0.3 vs 7.7 ± 0.2). When asked if they would request the same technique for future arthroscopic surgery, 88% of the EA group and 83% of the GA group answered affirmatively.

Our data demonstrates that EA is a well accepted and highly rated alternative to GA in our selected groups of patients. Furthermore, EA offers the specific advantage of significantly earlier discharge from both the PACU and the OPRR. These earlier discharge times are likely due in part to the significantly lower incidences of N/V and pain with EA.

Table 1: DISCHARGE TIMES (min) in PACU and OPRR

	EPI*	GEN	($p < .05$)
PACU	$66 \pm 3.5^*$	79 ± 4.2	(** $p < .01$)
OPRR	$97 \pm 5.7^{**}$	126 ± 5.5	(mean \pm SEM)

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TITLE: EFFECTS OF CLONIDINE PREMEDICATION FOR MONITORED ANESTHESIA.

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Introduction. Despite their relatively non-invasive nature, procedures performed with local anesthetic blocks and monitored anesthesia care (MAC) are associated with the release of catecholamines. This can produce significant morbidity and mortality.¹ Benzodiazepines are commonly employed as premedication due to their anxiolytic action. Alpha₂ agonists reduce central sympathetic outflow and have been shown to provide anxiolysis and sedation.² This study investigated the effects of clonidine premedication on anxiolysis, analgesia, and perioperative hemodynamics during MAC.

Methods. This randomized, double-blind study included ASA I-III patients undergoing ophthalmic surgery under MAC. Patients received either clonidine (5 μ g/kg clonidine, to the nearest 0.1 mg) or diazepam (0.01 mg/kg, to the nearest mg). Monitoring included ECG, mean arterial blood pressure (MAP), heart rate (HR), and pulse oximetry. O₂ was administered to all patients. Premedication level was scored, after which additional midazolam could be given (maximum pre-block dose 0.015 mg/kg). Three minutes prior to the local anesthetic block, patients received alfentanil 3-5 μ g/kg iv. Patient response to the block was then scored, 0 (unaware) through 4 (severe pain). Analysis of Variance, Bonferroni modified t-test, and Pearson Chi-square were performed; $p < 0.05$ was considered significant.

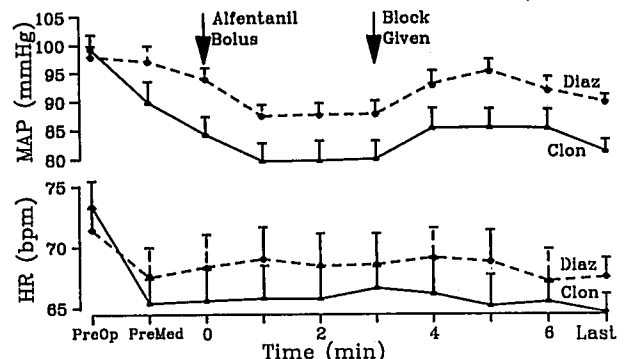
Results. The MAP obtained on arrival to the preoperative area was 99.3 ± 2.5 mmHg in the clonidine group, and 98.0 ± 1.8 mmHg in the diazepam group (Fig). After premedication (PreMed), MAP decreased to 89.8 ± 3.6 mmHg in the clonidine group ($p < 0.05$). MAP further decreased in the clonidine group ($p < 0.01$) following midazolam supplementation (time 0). Alfentanil decreased MAP in the diazepam group ($p < 0.05$). There was a 8 mmHg increase ($p < 0.05$) in MAP seen in the diazepam group following the nerve block, while MAP was unchanged in the clonidine group. Initial HR were 73.4 ± 2.0 bpm and 71.4 ± 1.8 bpm, for the clonidine and diazepam groups respectively. HR decreased to 65.4 ± 2.5 bpm and 67.5 ± 2.4 bpm

($p < 0.01$) following premedication and remained unchanged thereafter. Level of premedication and patient perception of pain during the nerve block was similar in both groups (Table).

Discussion. This study demonstrates that both diazepam and clonidine provide acceptable levels of anxiolysis for procedures performed under MAC. The choice of premedication did not affect the patient perception of pain during the nerve block. However, the increase in MAP observed in the diazepam group during the performance of the nerve block was not seen in the clonidine group. This study suggests that clonidine may offer an advantage over diazepam premedication by blunting the hemodynamic response during ophthalmic nerve blocks.

References

1. Anesthesiology 67(3A):A1, 1987.
2. Hypertension 6(S2): II 87-93, 1984.



	Premedication			Block Score				
	Inadeq	Adeq	Excess	0	1	2	3	4
Clonidine	6	19	0	2	12	8	3	0
Diazepam	8	18	0	0	9	10	7	0