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Title: A Comparison of Propofol and Midazolam for Colonoscopy

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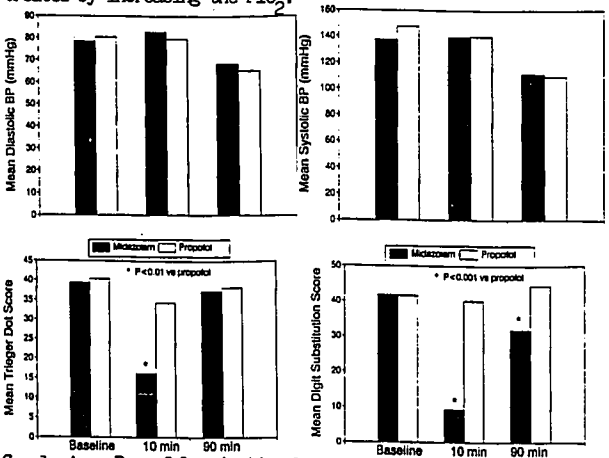
Introduction: To provide satisfactory sedation for colonoscopy the anesthetic agent must be able to produce rapid changes in the level of sedation, maintain hemodynamic stability and allow rapid recovery with minimal respiratory depression. Following its introduction, midazolam became the primary agent of choice. Now propofol, with its rapid action and recovery, is being used with increasing frequency for outpatient procedures. The purpose of this study is to compare the actions of propofol and midazolam during outpatient colonoscopy.

Methods: Forty ASA I-III male and female consenting patients, 45 to 75 years of age, scheduled for colonoscopy were randomized to receive either midazolam alone or propofol alone. Each group completed a digit symbol substitution test (DSST) and a trieger test (TT) prior to sedation and 10 minutes and 90 minutes after the completion of the procedure. Prior to discharge each subject was questioned for recall of the procedure and if satisfied with the anesthetic. Blood pressure was measured before sedation and every 5 minutes during colonoscopy. Nasal oxygen at 3L a minute was given to all subjects. Propofol (10 to 20 mg increments) and midazolam (1 mg increments) were administered as needed to provide satisfactory sedation as determined by the anesthesiologist and the surgeon. Statistical analysis was performed by multivariate ANOVA.

Results: There was no statistical difference for age, weight or duration of the procedure between the groups. Basal, maximum and minimum systolic and diastolic blood pressure values did not differ between the midazolam and propofol groups. The mean doses of propofol and midazolam were 160 mg and 10 mg respectively. The propofol group scored significantly better than midazolam for the DSST at 10 and 90 minutes. The TT indicated a significant benefit for propofol at 10 minutes. 18 of 20 propofol subjects and 20 of 20 midazolam subjects were satisfied with their anesthetics. 18 of 20 propofol subjects and 19 of 20 midazolam subjects denied recall of the procedure. The intergroup differences for recall and satisfaction of anesthesia were not significant. O_2 saturation remained greater than 96% in all patients except for one propofol subject who was sucesssfully treated by increasing the FIO_2.



Conclusion: Propofol and midazolam provide a good quality of sedation for colonoscopy. Propofol administration allows more rapid recovery and this difference may be of benefit for the ambulatory patient.

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TITLE: **PATIENT CONTROLLED ANESTHESIA FOR PROLONGED CONSCIOUS SEDATION**

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An increasing number of surgical procedures are now performed under conscious sedation. The anesthesiologist must provide adequate analgesia without jeopardizing the airway or delaying discharge to home. Patient Controlled Analgesia has been shown to be a safe and effective means of controlling post operative pain. To evaluate to efficacy of patient controlled analgesia during monitored anesthesia care, patients undergoing elective cosmetic and reconstructive plastic surgery were allowed to administer their own anesthesia.

After informed consent and institutional approval, fifteen adult patients, ASA class I to III, age 22 to 81 years (Mean 52 +/-4.8) who received no premedication and were instructed in the use of a standard PCA pump (Abbott Lifecare 4100) which delivered an equal fixed ratio of alfentanil and midazolam (450 mcg/ml). Patients we all monitored by ASA standards for monitored anesthesia care with an Anesthesiologist or CRNA in constant attendance. Incremental starting doses ranged from 3.7 to 8 mcg/kg and were individualized by age. The lockout interval was 5 minutes for all subjects. Patients were instructed to activate the pump just prior to instillation of local and when ever they felt discomfort.

All patients reported excellent analgesia with comfort scores of 4 (1 to 5) or greater in all patients. Heart rate and Blood pressure did not deviate more than 20% from baseline. Room air oxygen saturation stayed above 92% for all patients. No patients experienced nausea. Cases varied from 50 to 250 minutes (Mean 81.5 +/- 18.1) with a mean dose of 43.3 mcg/minute. Patients delivered between 1 and 17 incremental doses (Mean 6.6 =/- 1.2) Total dose of alfentanil and midazolam of 49.8 mcg/kg +/- 10.6. All patients were cooperative and responsive to commands throughout the procedure. All moved themselves from the operating table and were discharged to home in under two hours. On post operative interviews all patients expressed enthusiasm for the technique, rating it superior to previous anesthetic experiences.

In conclusion patient controlled analgesia with a fixed combination of alfentanil and midazolam is a safe and effective method for providing supplemental anesthesia during monitored anesthesia care.