

Title A BLINDED PROSPECTIVE COMPARISON OF DIFFERENT METHODS OF REDUCING NAUSEA AND/OR VOMITING AFTER OUT-PATIENT SURGERY

Authors: J.J Williams, M.D, PhD, M.E. Goldberg, M.D., G.E. Larijani Pharm.D., C.A. Nelson Marr, C.R.N.A. A.T. Marr, C.R.N.A., J.B. Lessin, R.N., J.L. Seltzer, M.D.

Affiliation: Dept. of Anesthesiology, Thomas Jefferson University, Jefferson Medical College, Philadelphia, Pennsylvania 19107

Introduction: Ambulatory gynecologic surgery patients often have a high incidence of postoperative nausea and vomiting^{1,2} which might or might not be reduced by the use of preoperative medications.^{1,3,4} Recently droperidol and metoclopramide, alone¹ and in combination³ have been advocated for use to reduce the problem in this patient population. These studies have been plagued by some inconsistencies in methods, such as lack of standard anesthetic technique and operative procedure and lack of control groups. The purpose of this study is to evaluate several methods of treatment currently utilized preoperatively to avoid nausea and/or vomiting in patients having outpatient laparoscopic procedures.

Methods: Sixty-nine female patients undergoing laparoscopic procedures gave informed consent to participate in this institutional review board approved study. The patients were divided into five groups. The randomly assigned treatment groups were GR I --saline, GR II --orogastric tube placed after induction and suctioned intermittently during the operation, GR III --droperidol 15 µg/kg, GR IV --metoclopramide 100 µg/kg, and GR V --both droperidol and metoclopramide in the above doses. All patients received 0.2 mg glycopyrrolate IV and the treatment drug prior to induction. The anesthetic technique was 1-2 µg/kg fentanyl, 3 mg d-Tubocurarine, 4-6 mg/kg thiopental and 1.5 mg/kg succinylcholine for induction and intubation. Anesthesia was maintained with 66% N₂O and up to 1.2% isoflurane in oxygen with atracurium for relaxation. Neuromuscular blockade was reversed at the completion of surgery with 2.5 mg neostigmine and 1.0 mg atropine. In addition we approached a group of patients having the procedure done under Midazolam/Fentanyl sedation with local anesthesia(MAC) to serve as a second control group. A standardized questionnaire was used to elicit history of motion sickness, nausea with hunger or anxiety, hiatal hernia and chronic sinus or middle ear problems. Patients were evaluated in the recovery lounge and prior to discharge with a linear analog scale to rate their own level of nausea. A follow-up call was made to determine problems at home as well as ability to tolerate fluids and solids at home. Data was analyzed with MANOVA and Kruskal-Wallis test. A p < 0.05 was considered as significant.

Results: There was an overall incidence of vomiting of 19% and patients with a nausea score over 1.0 of 32%. There was an decrease in the number of patients with nausea in Group II, when compared to Control Group I. There were no differences in the overall nausea scores and time in the recovery areas between groups. The only demographic factor that correlated with vomiting was a hiatal hernia.

Previous nausea with anesthesia, motion sickness, nausea with anxiety or sinus or middle ear problems made no difference. Only 4/69 patients complained of vomiting and 11/69 nausea at home after discharge. All were able to take liquids on the day of surgery and solid food on the day following the procedure. Patients having the procedure under local with sedation had the same incidence of nausea and vomiting post-operatively as the placebo group with general anesthesia.

Discussion: While many people implicate general anesthesia as the cause of nausea and vomiting post operatively we found no difference between local with sedation and general anesthesia with placebo groups. While vomiting was not diminished by treatment there was a decrease in incidence of nausea with NG suction. While the patients had vomiting their subjective rating of nausea was less than the other groups. It is possible that the sedation from the treatment drugs led to a change in sensorium interpreted as nausea. There were no problems with hydration at home even though some patients still had some symptoms at home on the day of surgery. There was no reason to admit any patient for therapy and no nausea or vomiting occurred on the first post-op day.

Post-op nausea may be reduced by treatment but vomiting was not reduced by therapy. The presence of a hiatal hernia correlates with post-op vomiting. The problem is self limited. There appears to be a baseline incidence of vomiting in this patient population but resolution of the problem appears to be within the day of the procedure.

	I	II	III	IV	V	MAC
NAUSEA	7/12	1/9*	2/10	2/11	4/14	6/13
VOMIT	2/12	3/9	1/10	3/11	1/14	3/13

*p < 0.05 when compared to Gr I

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