

A Prospective Comparison of Three Common Anti-emetic Medications in the Emergency Department: an Interim Analysis

Darren Braude, MD, MPH, Jim Andrews, MD, MS, Tricia Soliz, RN, BSN, Greg Hendey, MD, Lori Weichenthal, MD, and Sarah McCullough, MD, PharmD
From the Department of Emergency Medicine, University Medical Center, Fresno and the UCSF-Fresno Emergency Medicine Residency Program

Introduction

- ◆ Anti-emetics have been extensively studied in the setting of cancer chemotherapy and anesthesia. While these drugs are used daily in most Emergency Departments, there have been few studies demonstrating their efficacy, and no studies comparing any of these drugs, in an unselected ED population.

Objective

- ◆ To compare three common anti-emetic medications with each other and placebo in an unselected E.D. population.

Medications Compared

- ◆ Metoclopramide (Reglan) 10 mg IV
- ◆ Droperidol (Inapsine) 1.25 mg IV
- ◆ Prochlorperazine (Compazine) 10 mg IV
- ◆ Placebo (saline)

Methods

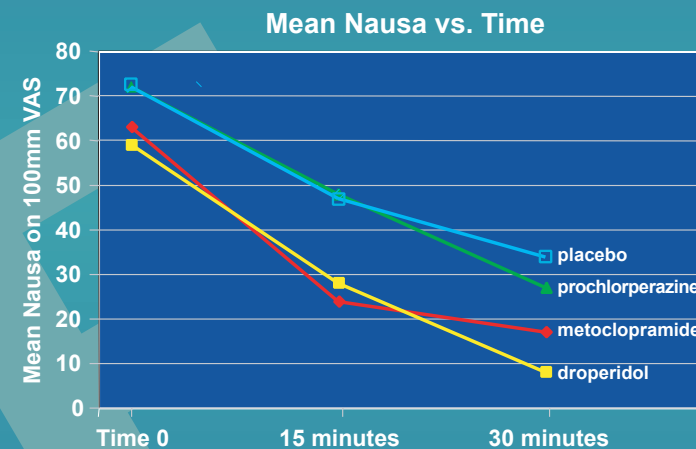
- ◆ Prospective, randomized, placebo controlled, double-blind
- ◆ Convenience sample of ED patients 18-65 complaining of nausea
- ◆ Academic, urban, Level I Trauma Center
- ◆ All patients received IV fluids (LR or NS)
- ◆ Nausea, sedation and anxiety measured on 100 mm VAS at time 0, 15 and 30 minutes
- ◆ Exclusions: nausea < 40 mm on VAS, pregnancy, CHF, hypotension, received more than 1 liter of IV fluids, patient or physician declined to participate.

Statistics

- ◆ Sample size: 104 (4 groups of 26)
- ◆ Power: 0.9 to detect a difference of 3 cm on VAS
- ◆ Analysis:
 - ANOVA to determine treatment effect
 - F statistic to demonstrate difference

Results

- ◆ 54 of 104 target patients have been enrolled
- ◆ There were no significant differences in the groups with respect to age, sex, initial degree of nausea or amount of IV fluid received.



- ◆ Metoclopramide ($p = 0.038$) and droperidol ($p = 0.003$) were statistically better than placebo but not statistically different from each other ($p = 0.28$).
- ◆ Prochlorperazine was not statistically different than placebo ($p = 0.38$).

- ◆ There was a significant treatment effect for all medications, including placebo, at 15 and 30 minutes ($p < 0.001$).
- ◆ None of the medications were significantly different from placebo in sedation or anxiety. There was one dystonic reaction in the droperidol group.

Limitations

- ◆ Interim analysis only
- ◆ Convenience sample
- ◆ Different dosages may be more or less effective

Conclusions

- ◆ At this interim analysis and at the dosages used, metoclopramide and droperidol were equally more effective for the control of nausea and vomiting than prochlorperazine or placebo without an increase in sedation or anxiety.
- ◆ Prochlorperazine did not perform better than placebo.
- ◆ All patients improved with time and IV fluids.