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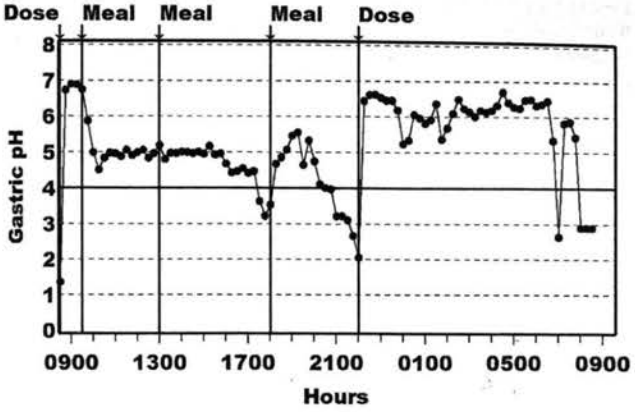
affords superior intragastric pH control compared to other available proton pump inhibitors given twice daily.

Methods: A retrospective review of patients in the database of our esophageal laboratory between 1990 and 2003 were identified. All studies in which PPIs were given bid were included for review. Data analyzed for percentage time intragastric pH greater than 4, total, upright, recumbent. **Statistics:** Bootstrap analysis (unequal sample size) used to compare esomeprazole against each proton pump inhibitor. Results: Three hundred and thirty-three studies identified, 29 excluded due to less than 16 hours worth of pH data or inadequate documentation of optimal or correct dosing regimen. Three hundred and four total studies were reviewed. Ome 20 bid (N = 194), Lanso 30 bid (N = 67) Rab 20 bid (N = 11), Panto 40 bid (N = 8), Eso 40 bid (N = 24). Mean total time intragastric pH greater than 4 was superior for esomeprazole (76.4%, 18.3 hrs) compared to lansoprazole (64%, 15.4 hr) and pantoprazole (56%, 15.4 hr), $p < 0.03$ and 0.01 respectively, with no difference compared to omeprazole (27%, 17.5 hr) and rabeprazole (21%, 19 hrs). Though not specifically evaluated nocturnal breakthrough of gastric pH was seen with all five PPIs.

Results: Eso 40 mg twice daily may afford greater time intragastric pH greater than 4 than other PPIs.

Conclusions: 1. These retrospective results require validation in prospectively designed clinical studies. 2. The clinical importance of this increase in acid control is unclear. 3. Twice daily proton pump inhibitors appear to afford approximately five additional hours of pH control when twice daily dosing is used.

Median Gastric pH with OME-IR(SUSP) 20 mg b.i.d.
Day 8



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NIGHTTIME DOSING OF OMEPRAZOLE IMMEDIATE-RELEASE ORAL SUSPENSION RAPIDLY DECREASES NOCTURNAL GASTRIC ACIDITY

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Purpose: Proton pump inhibitors (PPIs) suppress gastric acid secretion sufficiently to treat most symptoms of GERD. However, in some patients, PPIs fail to control nighttime gastric acid secretion and also fail to control nighttime GERD symptoms. The PPIs used to treat these symptoms have all been delayed-release formulations with enteric coatings. A new omeprazole immediate-release suspension (OME-IR[SUSP]) has been developed, using sodium bicarbonate to protect the acid-labile PPI, rather than the traditional delayed-release enteric coating. The present trial was conducted to evaluate the effectiveness of OME-IR(SUSP) in controlling nighttime gastric acidity after twice-daily (b.i.d.) dosing.

Methods: Seventeen healthy subjects were enrolled in this open-label trial. Single 20-mg doses of OME-IR(SUSP) (Santarus, San Diego) were given 1 hr prior to breakfast (qAM) for 7 days. On Day 8, the 20-mg suspension was given b.i.d.: at 0830 hrs (1 hr prior to a standardized high-fat breakfast) and at 2200 hrs (bedtime). On Days 7 and 8, standardized lunch and dinner were given at 1300 and 1800 hrs. Gastric pH was continuously monitored (Medtronic) for 24 hrs following the morning doses on Days 7 and 8. The percent time pH was > 4 was assessed for the 8-hr nighttime period (2200–0600 hrs) and for the 24-hr period following the morning dose. The proportion of subjects with "nocturnal acid breakthrough" (NAB) (> 1 hr of continuous pH < 4) was assessed for the 8-hr nighttime period.

Results: The figure below displays the 24-hr median gastric pH profile at steady state for b.i.d. dosing of OME-IR 20 mg. After the bedtime dose, OME-IR 20 mg abruptly raised the gastric pH and sustained this effect for approximately 8 hrs. The median % time pH was > 4 was greater for b.i.d dosing (87%) than for qAM dosing (39%) ($p < 0.001$). NAB occurred in fewer subjects dosed b.i.d. (5/17 [29%]) than dosed qAM (13/17 [76%]) ($p = 0.005$).[figure1]

Conclusions: Twice-daily dosing (before breakfast and at bedtime) with OME-IR(SUSP) is effective in controlling nighttime acidity. Nighttime ad-

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OMEPRAZOLE IMMEDIATE-RELEASE ORAL SUSPENSION IS MORE EFFECTIVE THAN PANTOPRAZOLE DELAYED-RELEASE CAPSULES IN REDUCING NIGHTTIME GASTRIC ACIDITY IN GERD PATIENTS

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Purpose: The present trial was conducted to evaluate nighttime dosing of omeprazole imediate-release oral suspension (OME-IR[SUSP]) in once- and twice-daily regimens, comparing the effect of OME-IR on nocturnal gastric acidity to that of pantoprazole (P), the only PPI with FDA-approved labeling for reduction in rate of nighttime heartburn symptoms.

Methods: Thirty-two patients with nocturnal GERD symptoms were enrolled in a crossover trial with 40-mg doses of P (Protonix®, Wyeth-Ayerst, Philadelphia) given at 2200 hrs (bedtime) on Day 1 and prior to dinner on Days 2–6 and 40-mg OME-IR(SUSP) (Santarus, San Diego) given at 2200 hrs on Days 1–6. On Day 7, both PPIs were given 1 hr prior to breakfast and at 2200 hrs: P 40 mg (n = 32); OME-IR 40 mg (n = 17) and 20 mg (n = 15). Continuous 24-hr gastric pH monitoring (Medtronic) was performed on Days 1, 6, and 7. Median gastric pH,% time pH was > 4, and the proportion of patients with "nocturnal acid breakthrough" (NAB) (> 1 hr of continuous pH < 4) were determined for the nighttime period (2200–0600 hrs).

Nighttime Median Gastric pH After Once-daily Dosing with OME-IR and Pantoprazole (2200 - 0600 hours)
Day 6