DUODENAL ULCER HEALING, OMEPRAZOLE VS. RANITIDINE. A MULTICENTER, DOUBLE-BLIND, CONTROLLED STUDY.
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108 subjects with endoscopically diagnosed duodenal ulcer participated in a randomized double-blind, multicenter healing trial of omeprazole 20 mg. (OME) od (55) vs. ranitidine 150 mg. (RAN) bid (53). Patients were treated up to 4 weeks and underwent endoscopic and clinical evaluation for healing at week 2 and 4. Graded symptom score of pain was recorded daily in a diary and reviewed at each clinical assesment. Routine clinical laboratory values were obtained at baseline, week 2 and 4. Evaluation of the baseline parameters demonstrated no significant differences between the 2 groups. Analyses of healing rate and symptom score demonstrated the following results:

At week 2 the number of patients with ulcers was reduced by 76% in the OME group and by 36% in the RAN group ($p<0.05$). The corresponding healing rate after 4 weeks was 96% in the OME group and 85% in the RAN group ($p<0.05$). There were also significant differences in Day Pain and General Symptom score in favor of OME ($p<0.05$).

Conclusion: In this study OME was significant more effective in healing acute duodenal ulcer after 2 and 4 weeks, and gave faster pain relief than RAN.

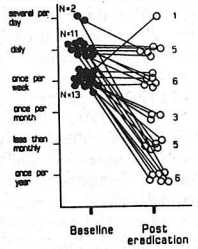
● CHARACTERIZATION OF THE CARBONIC ANHYDRASE II (CAII) PROMOTER. Lucyndia Marino and Tadataka Yamada. Departments of Pediatrics and Internal Medicine, The University of Michigan Medical Center, Ann Arbor, MI

CA II is an ubiquitous enzyme that plays a critical role in cellular pH regulation. It's function in gastric acid secretion appears to be to generate $HCO_3^-$ from the $OH^-$ generated as a by-product of $H^+$ accumulation in the secretory canaliculus. In previous studies we have demonstrated that CA II gene expression in gastric parietal cells is induced by gastrin, histamine, and carbachol. To explore further the mechanisms for regulation of the CA II gene, we utilized a transient expression system with a 250 bp portion of the 5' region of the CA II gene linked to a reporter gene encoding chloramphenicol acetyl transferase (CAT). The CA II gene segment contains 8 potential cis regulatory regions including an Sp1 site, 2-Ap2 sites, a zinc finger region, 3 TPA response elements and a TATA box. By transfection of the vector into NIH3T3, HEP G2 and TCMK cells, we noted that this CA II gene segment had potent promoter but no enhancer activity. When the 250 bp segment was cleaved into a 90 bp Sp1 containing domain and a 160 bp TATA containing domain and the 2 fragments were examined separately, they demonstrated, respectively, 145±34% and 347±67% (mean SE, n = 3), of the promoter activity of the complete 250 bp segment. However, mutation by deletion of 94 bp in the center of the 250 bp segment led to near total loss of promoter activity. The intact 250 bp segment exhibited clearly demonstrable responses to stimulation with 12-0-tetradecanoylphorbol 13-acetate (TPA, $10^{-4}$M) and forskolin ($10^{-5}$M), 194±31%, and 333±35% of the promoter activity of the 250 bp segment without stimulation, respectively (n = 3). The responses to TPA and forskolin could be abolished by mutation of the TATA box or the 2-Ap2 sites. Our studies indicate that we have identified a potent promoter region of the CA II gene. The Sp1 and TATA domain containing regions of this segment are able to promote transcription independently, however, an element in the former segment may have a negative influence on transcription promoted by the TATA containing domain. The distance between the Sp1 and TATA sites appears to be critical for optimal promoter activity. Finally, the 250 bp region of the CA II gene contains functional TPA and cAMP response elements that may mediate the induction of the gene in parietal cells by gastric secretagogues.

● RESPONSE OF CHRONIC NAUSEA TO ANTIBACTERIAL THERAPY IN PATIENTS WITH H.PYLORI (HP). B.J. Marshall, S.H. Caldwell, S.R. Hoffman, R.L. Guerrant, R.W. McCallum. Divs. of Gastroenterology and Geographic Medicine, U. of Virginia, Charlottesville, VA.

Nausea and vomiting are commonly associated with both acute and chronic HP infection (Ramsey,Gastro.;1979) (Mohiuddin,Lancet;1988). The **AIM** of this study was to evaluate antibacterial therapy for HP in patients with chronic nausea and vomiting. **METHODS**: Patients were consecutive, biopsy proven, HP+ cases attending the G.I. Clinic at UVA. To be selected for the study, patients had to have vomiting and/or nausea at least once per week. Those with metronidazole (MTZ) sensitive organisms were treated with bismuth subsalicylate and MTZ. Resistant HP was treated with other bismuth/antibiotic combinations. HP eradication was confirmed by breath test 1 mo, 3 mo, and 12 mo later. In May 1990 all patients were mailed a questionnaire asking their current status and medications. **RESULTS**: 26 patients were included in the study (12 m, 14 f). The mean duration of symptoms prior to therapy was 4.8 yr (range 2-7 yr). The mean follow up duration was 15 mo at which time 10 patients were on no medication, 3 were taking antiemetics, and 9 were taking anti-ulcer drugs. Response to therapy is shown in the figure, the difference from baseline was highly significant ($p<0.001$). Global score was "much better" in 9, "improved" in 13, "same" in 3 patients, and "worse" in 1 patient. Age, sex, or duration of symptoms did not predict response. **CONCLUSION**: HP is a potential etiologic agent in patients with chronic nausea and vomiting. Antibacterial therapy may offer a new therapeutic option in a subset of patients with this symptom.

NAUSEA AND VOMITING:
Symptom response in 26 patients after eradication of H.pylori.




● INCIDENCE OF SIDE EFFECTS DURING BISMUTH SUBSALICYLATE AND ANTIBIOTIC THERAPY FOR H.PYLORI (HP). B.J. Marshall, S.R. Hoffman, R.W. McCallum. Div. of Gastroenterology, U. of Virginia, Charlottesville, VA.

**INTRODUCTION**: In the absence of other curative remedies, treatment of gastritis may be a viable therapeutic option for patients with non-ulcer dyspepsia (NUD). A disadvantage of such treatment includes an unknown incidence of possibly severe bismuth and antibiotic side effects. The **AIM** of this study was to define the incidence of side effects in patients treated with bismuth/antibiotic combinations. **METHODS**: Consecutive patients with NUD and biopsy-proven HP were included in the study. Treatment consisted of bismuth subsalicylate (BSS) tablets, 1 tab 8 times daily (14 d) with metronidazole (MTZ) 1-1.5g daily (days 4-14). Patients with MTZ resistant organisms were treated with "triple therapy" in which MTZ was replaced by erythromycin and/or tetracycline or amoxicillin. At 1 and 3 mo post treatment, patients attended for a follow-up breath test and completed a questionnaire detailing side effects of therapy. **RESULTS**: HP was eradicated in 100 out of 112 patients (89%) in 176 courses of treatment. Side effects occurred in 27 patients (24%). Most side effects were mild and self limiting (see table).

**Side Effects of Therapy (as % of patients)**

| | | | |
|---|---|---|---|
| Diarrhea | 7 | Yeast Infection | 2 |
| Nausea | 6 | Sleepiness | 2 |
| Cramping | 2.5 | Allergic Reaction | 2 |
| Bloating | 2 | Dry Mouth | 1 |
| Abdominal Pain | 2 | Asthma Attack | 1 |
| | | Rash | 1 |

When side effects did not occur (n=85, 75%), HP was eradicated in 79 (93%). When side effects did occur, HP was eradicated in only 21 (77%) ($p=0.026$), suggesting that drug side effects and relatively poor compliance may have been one of the reasons for treatment failure. There were 2 cases of C.difficile colitis, both in patients given amoxicillin. One patient required hospitalization. **CONCLUSION**: Combination antibiotic therapy for HP is relatively safe, although regimens without amoxicillin are preferred. Side effects from BSS/antibiotic therapy may have been overstated in the past.