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IS CLOTEST ALONE ADEQUATE TO DIAGNOSE CAMPYLOBACTER PYLORI? K.R. Dye, B.J. Marshall, H.F. Frierson, L.J. Barrett, R.L. Guerrant, R.W. McCallum. Department of Internal Medicine, Univ. of Virginia, Charlottesville, VA 22908.

Campylobacter pylori has been shown to cause chronic active gastritis and influence relapse rates of duodenal ulcer disease. It has been associated with nausea, bloating, epigastric pain and dyspepsia. It is important to ascertain the presence of this bacteria during the endoscopic evaluation of patients suspected of having acid-peptic disease. In this study we sought to determine if the rapid urease test on a single antral biopsy (CLOtest$^R$) was as reliable as histological examination and culture in the diagnosis of this infection. One hundred twenty-two consecutive endoscopy patients had antral biopsy for CLOtest$^R$, histology (H&E, Giemsa) and culture (82). The patient was diagnosed as having C.pylori if the culture was positive or if the organism was seen on Giemsa stain. The patient was negative if both the culture and Giemsa were negative. These results were then compared to CLOtest$^R$ performed on a single antral biopsy. The CLOtest$^R$ was examined by the endoscopy room nurse at 1, 3, and 24 hours; a red color change was interpreted as positive.

| | True + | True - | False + | False - |
|---|---|---|---|---|
| CLOtest$^R$ | 44 | 72 | 4 | 2 |
| Histology | 43 | 76 | - | 3 |
| Culture | 23 | 51 | - | 8 |

| | CLOtest$^R$ | Histology | Culture |
|---|---|---|---|
| Sens. | 96% | 93% | 74% |
| Spec. | 95% | 100% | 100% |

By definition, histology and culture were each 100% specific. Eighty percent of positive CLOtests$^R$ changed color within 1 hr and the remainder by 24 hrs. On a single biopsy CLOtest$^R$ was as sensitive as histology and more sensitive than culture. We conclude that CLOtest$^R$ is a rapid, reliable, and convenient method of diagnosing C.pylori.

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EFFECT OF NICOTINE GUM ON GASTRIC MOTILITY. Sidney Fink, M.D. and Tapan K. Chaudhuri, M.D.,F.A.C.G., V.A. Medical Center, Hampton, VA.

The effect of nicotine gum (NG) upon gastric emptying (GE) was studied in ten habitual cigarette smokers (age 38-76, mean 56 years) who were free of gastrointestinal complaints or significant history. Cigarette exposure was 0.5 to 3 packs per day for a minimum of 15 years.

GE of a Tc-99m-sulfur colloid labelled semisolid meal was measured by dynamically recording scintiphotos of the stomach every 15 minutes for two hours on two occasions. In each the subjects fasted and refrained from smoking for 8 to 10 hours, then chewed gum containing 2 mg of nicotine during the first 15 minutes of the study in one test, and identical gum devoid of nicotine in the other. After testing, eight subjects reported tingling of the buccal mucosa or tongue while chewing NG, two others were aware of a minor, not unpleasant sensation.

NG tended to speed GE slightly, but the difference in emptying times between NG and placebo gum was not statistically significant. There was no correlation between GE rate with NG and high vs low nicotine cigarette use or pack-year history. Enterogastric reflux was not observed during chewing of NG.

Our negative pilot study suggests that NG used in smoking cessation therapy does not significantly affect gastric motility, and probably does not thereby alter the absorption of concurrently administered therapeutic agents.

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RANDOMIZED COMPARISON OF MIDAZOLAM AND DIAZEPAM IN ESOPHAGOGASTRODUODENOSCOPY OF CHILDREN AND ADOLESCENTS. John E. Grunow, M.D. and Michael P.Morris, M.D. Oklahoma University Health Sciences Center, Okla. City, OK.

To evaluate alternative sedative combinations for endoscopy in children we designed a randomized, double blind study to compare the sedative effects of midazolam (M) with those of diazepam (D) in children. Twenty five patients were randomized to receive IV meperidine, 2 mg/kg, plus 0.15 mg/kg diazepam (13 patients) or 0.075 mg/kg midazolam (12 patients). Drug doses were repeated as needed to facilitate endoscopy. Patients were monitored for cooperation, level of arousal, oxygen saturation, gagging, coughing, and retching throughout the procedure.

RESULTS: Induction time and recovery time were comparable for both drugs, D 5.7 ± 0.8 min vs M 6.9 ± 0.5 min and D 86 ± 23 min vs M 101 ± 30 min, respectively. Patient cooperation was worse with midazolam (p 0.01). Midazolam caused a deeper level of sedation only at the beginning of the procedure (p 0.01). Oxygen saturation dropped more after administration of midazolam (Table), but recovered spontaneously. A more significant drop occurred with intubation.

| | O2 Saturation | | |
|---|---|---|---|
| | Diazepam | Midazolam | p |
| Pre-sedation | 99.1 ± 0.3 | 98.3 ± 0.4 | NS |
| After meperidine | 97.5 ± 1.0 | 96.8 ± 1.4 | NS |
| After midazolam | 97.4 ± 0.3 | 93.8 ± 1.7 | 0.005 |
| Start procedure | 97.1 ± 0.5 | 96.0 ± 0.9 | NS |
| Intubation | 90.5 ± 1.8 | 81.2 ± 4 | 0.005 |
| In stomach | 97.7 ± 0.6 | 93.0 ± 1.6 | 0.01 |
| In duodenum | 98.0 ± 0.5 | 95.4 ± 1.4 | 0.01 |
| End procedure | 97.2 ± 0.6 | 96.5 ± 1.1 | NS |

CONCLUSIONS: Midazolam is as effective as diazepam for rapid induction time and shorter recovery time in pediatric patients, but pediatric patients are less cooperative with midazolam and experience a more pronounced drop in oxygen saturation with midazolam during intubation. Oxygen saturation monitoring is an integral part of patient monitoring during pediatric endoscopy.

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WEIGHT OUTCOMES OF COMBINING GASTRIC BUBBLE INSERTION WITH A STRUCTURED WEIGHT CONTROL PROGRAM IN THE MORBIDLY OBESE. J.A. Green, RD, MS, L.K. Fisher, RN, D.J. Pambianco, MD, R.W. McCallum, M.D., Department of Gastroenterology, University of Virginia, Charlottesville, Virginia.

Use of the Garren Edwards gastric bubble has not been previously assessed in long-term weight reduction programs for the morbidly obese.

This 1-year study evaluated 4 treatments: T1 = gastric bubble + 800 kcal diet + lifestyle education; T2 = supplemented fast + gastric bubble + lifestyle education; T3 = supplemented fast + lifestyle education; T4 = gastric bubble only. T1 received the bubble from 0-6 months, while T2 received the bubble from 6-12 months. The lifestyle education program included weekly classes for the first 6 months, bi-weekly behavioral change classes from 6 to 12 months, and structured exercise 3 times per week. The 12-week supplemented fast (420 kcal liquid formula) was followed by a 10-week transition period to a 800 kcal diet. T4 is in progress with 3 months of data reported.

Mean percent weight loss for the four treatment groups at 3, 6, 9 and 12-months were as follows:

| | T1 (N=3) | T2 (N=3) | T3 (N=4) | T4 (N=7) |
|---|---|---|---|---|
| Baseline-3 months | 9.6% | 15.6% | 15.1% | 1.3% |
| 3 months-6 months | 3.1% | 2.0% | 5.6% | - |
| 6 months-9 months | 0.4% | 0.8% | +0.6% | - |
| 9 months-12 months | +0.4% | +7.1% | +1.7% | - |

There was a statistically significant difference in weight loss among groups at 3 months, $F(3, 22) = 11.45$, $p < 0001$. There were no statistically significant differences among groups at the other time periods.

These data suggest a greater weight loss during the first 3 months with those groups who used a supplemented fast in combination with either a gastric bubble or a behavioral change program. In combination with a structured lifestyle education program, the gastric bubble may be just as effective for long-term weight loss as supplemented fasting. Preliminary data on the bubble-only group (T4) suggest that an obesity treatment program utilizing multiple interventions as opposed to a single intervention may promote longer-term weight maintenance.