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Retrospective comparison of laparoscopic versus open gastric bypass for morbid obesity

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Purpose: Laparoscopic Roux-en-Y gastric bypass (GBP) is technically possible, and prior studies reflect comparable complication rates and outcome with fewer wound problems than open GBP. In this review, we evaluate our experience at The Western Pennsylvania Hospital (WPH) with both techniques to determine safety, efficacy and outcome.

Methods: Data, including demographic, perioperative, and outcome was retrospectively collected on all patients who underwent GBP at WPH from Oct 1997 to March 2001. This consisted of 103 patients; 58 laparoscopic, and 45 open cases. All data was compared between two groups based on laparoscopic versus open technique, statistical analysis was performed on all appropriate data, and trends were evaluated.

Results: Both groups displayed similar demographics, including: age (mean 43), sex (male/female ratio), preoperative BMI (laparoscopic group 49.35, open group 53.35 ($p = 0.059$)). Mean operative time was significantly less in open GBP group ($p < 0.005$), as well as time under anesthesia ($p < 0.005$). Estimated blood loss was significantly less in the laparoscopic group ($p < 0.005$). Length of hospital stay was on average 3.9 for the laparoscopic group and 5.8 days for the open GBP group, but this did not approach statistical significance ($p = 0.16$). Overall mortality was $<1\%$, with one death in the laparoscopic group. Morbidity was 21.4% overall, with 18% in the laparoscopic group, and 3.4% in the open group. Complications included: anastomotic leak, stricture, bowel obstruction, and wound infection. Follow up to 6 months revealed no significant difference in weight loss based on operative technique.

Conclusions: Laparoscopic Roux-en-Y gastric bypass is as effective in achieving weight loss as open GBP, while reducing operative blood loss and potentially recovery time. Longer operative time and higher morbidity may reflect the learning curve of this complex laparoscopic procedure.

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Lack of gastric adaptation to weekly versus daily alendronate administration in rats

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Purpose: Aminobisphosphonates, such as alendronate, have well characterized irritant effects in the upper GI tract. In animal studies, acute administration of alendronate exacerbated gastric damage induced by indomethacin and, when given daily, delayed healing of pre-existing gastric ulcers. It has been proposed that administration of alendronate on a weekly, rather than daily basis, may have a lower potential for inducing upper GI irritation. However, daily administration of other gastric irritants (to animals or humans) leads to a progressive increase in gastric resistance to injury (gastric adaptation).

Methods: In the present study, we examined gastric injury induced by 21 days of daily (20 mg) versus weekly (140 mg) alendronate administration to rats. The drugs were given orally in a vehicle of saline. Subgroups of rats ($n = 12$) were euthanized at the end of 1, 2 or 3 wk of treatment for blind assessment of the extent of hemorrhagic gastric damage (corpus and antrum).

Results: In rats given alendronate daily, the extent of damage to the stomach was greatest at the end of wk 1 (mean damage area of 3.5 ± 1.4 mm²; $p < 0.05$ vs. 0.3 ± 0.3 mm² in vehicle group), and by wk 3 had decreased to 1.7 ± 0.9 (not significantly different vs. vehicle). In contrast, no such adaptation of the stomach was observed in rats given alendronate once per week (mean damage area of 3.6 ± 1.1 at wk 1 and 3.7 ± 1.2 at

wk 3). Antral damage is often considered to be the most clinically significant. A small amount of antral damage was observed at wk 1 in the daily alendronate group (25% incidence; mean ulcer area of 0.3 ± 0.3 mm²), but no antral damage was observed at wk 2 or 3 in this group. In contrast, the incidence of antral damage did not change with time in the group treated weekly with alendronate (25–30%), but the severity of damage increased considerably (mean ulcer area of 3.0 ± 1.0 mm² at wk 1 and 5.6 ± 1.2 mm² at wk 3; $p < 0.05$ vs. vehicle).

Conclusions: Daily alendronate administration results in an adaptive response manifest by reduced gastric (particularly antral) damage with time. In contrast, gastric adaptation does not occur with weekly administration of alendronate, with antral damage becoming progressively more severe. The advent of new dosing schedules warrants further study to determine GI safety and tolerability.

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Bactericidal activity of *Pistacia lentiscus* gum mastic against *Helicobacter pylori*

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Purpose: Gum mastic is a natural resin obtained from the *Pistacia lentiscus*, an evergreen tree which is cultivated in the mediterranean area countries. This substance was well known to the ancient Greeks and it has been used for relief of upper abdominal discomfort, gastralgia, dyspepsia and peptic ulcer. Mastic has been reported to be effective in the treatment of benign gastric ulcers and duodenal ulcers (Huwez, 1986 and Al Habbal, 1984). We determined the antibacterial activity of *P. lentiscus* gum mastic against *Helicobacter*.

Methods: The strains used in this study were 12 recent isolates from patients (4 susceptible to clarithromycin and metronidazole, 4 resistant to clarithromycin and 4 resistant to clarithromycin and metronidazole). The minimal bactericidal concentrations (MBC_c) were obtained by a microdilution assay. A stock solution of mastic gum was prepared in ethanol at a concentration of 40.000 µg/ml and diluted in the broth culture (Brucella broth) for a final concentration ranging from 2000 to 1.9 µg/ml. The inoculum used was 10^7 *H. pylori* per ml. The cultures were incubated at 37°C in capnophilic atmosphere (10% of CO₂). The MBC (the minimal concentration of drug required to kill 99.9% of the bacteria in the medium after 24 hour incubation) were determined by carrying out 10 µl aliquots on agar plates (Columbia blood agar).

Results: Mastic killed 50% of the strains tested (MBC 50) at a concentration of 125 µg/ml and the MBC 90 was µg/ml. The four strains susceptible to clarithromycin and metronidazole were inhibited by 62.5 µg/ml.

Conclusions: Our results suggest that mastic has a fairly good antibacterial activity against *H. Pylori*.

Further studies are needed to establish its role in treating peptic ulcer and *H. pylori* infection.

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Measurement of solid phase gastric emptying using a simple muffin meal with ¹³C-octanoate breath testing in dyspeptic patients

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Purpose: 1) To determine how a modified ¹³C-OBT, using an easily prepared muffin meal, correlates with conventional solid and liquid phase gastric emptying scintigraphy (GES) in pts with dyspeptic symptoms. 2) To determine sensitivity and specificity of OBT in detecting delayed GE using simultaneous scintigraphy as the standard. 3) To determine if shortening