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TRIGGER BASED EVALUATION OF LAPAROSCOPIC ANTIREFLUX SURGERY IN GASTROESOPHAGEAL REFLUX DISEASE

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Aim: It is well known that certain diet and posture can aggravate gastroesophageal reflux (GOR) symptoms. The alleviation of reflux symptoms precipitated by these specific triggers after surgery is usually evaluated by global satisfaction scores or grading systems. The aim of this study is to assess the effect of laparoscopic antireflux surgery (LARS) on selected precipitants of GOR based on a trigger based evaluation tool.

Methods: The preoperative dietary and postural triggers of GOR were identified by an initial pilot study. These triggers were used as the evaluation tool in the current study. The triggers included different food varieties (spicy and fatty foods), beverages (coffee, tea, fizzy drink), alcohol and posture (supine, bending and exercise). The severity of symptoms related to these stimuli was graded prior to surgery as severely incapacitating, moderately incapacitating or having no effect. The effect and extent of relief after surgery were graded as complete relief, significant relief or no effect.

Results: 112 patients (M:F-70:42) with a median age of 45 (IQR 37–54) were assessed preoperatively and at a median of 11 months after LARS. Spicy food was the most significant preoperative dietary trigger 90% (101/112), followed by fatty food 86% (96/112), onion 76% (85/112), fizzy drink 71% (80/112) and alcohol 59% (66/112). Supine posture was the worst postural trigger 90% (101/112) while bending and exercise affected 82% (92/112) and 73% (82/112) respectively. After LARS, overall relief of reflux was seen in 92% (103/112) of patients. Relief of trigger provoked reflux was seen in 89% (90/101) and 86% (83/96) of patients after spicy and fatty food intake respectively. 77% (51/66) of patients enjoyed reflux free alcohol intake after surgery. Complete relief from supine reflux was achieved in 84% (85/101).

Conclusion: Spicy food, fatty food and supine posture are significant precipitants of GOR symptoms and these are effectively controlled by LARS. Specific trigger based questionnaire can be used as an assessment tool to evaluate post operative outcomes in LARS.

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LAPAROSCOPIC REVISION OF FAILED FUNDOPLICATION AND HIATAL HERNIORRHAPHY

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Objective: To evaluate the mechanisms of failure after laparoscopic fundoplication and the results of revision laparoscopic fundoplication.

Background: Laparoscopic Nissen fundoplication has become the most commonly performed antireflux procedure for the treatment of gastroesophageal reflux disease with success rates from 90–95%. Persistent or new symptoms often warrant endoscopic and radiographic studies to find the cause of surgical failure. In experienced hands, reoperative antireflux surgery can be done laparoscopically. We performed a retrospective analysis of all laparoscopic revision of failed fundoplications done by the principle author and the respective fellow within the laparoscopic fellowship from 1992 to 2006.

Methods: A review was performed on patients who underwent laparoscopic revision of a failed primary laparoscopic fundoplication.

Results: Laparoscopic revision of failed fundoplication was performed on 68 patients between 1992–2006. The success rate of laparoscopic redo Nissen fundoplication was 86%. Symptoms prior to the revision procedure included heartburn (69%), dysphagia (8.8%), or both (11.7%). Preoperative evaluation revealed esophagitis in 41%, hiatal hernia with esophagitis in 36%, hiatal hernia without esophagitis in 7.3%, stenosis in 11.74%, and dysmotility in 2.4%. The main laparoscopic revisions included fundoplication alone (41%) or fundoplication with hiatal hernia repair (50%). Four gastric perforations occurred; these were repaired primarily without further incident. Open conversion was performed in one patient. Length of stay was 2.5 ± 1.0 day. Mean follow-up was 22 months (range 6–42 months), during which failure of the redo procedure was noted in 9 patients (13.23%).

Conclusion: Laparoscopic redo antireflux surgery performed in a laparoscopic fellowship program produce excellent results that approach the success rates of primary operations.

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LONG AND FLOPPY NISSEN FUNDOPLICATION

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POSTER ABSTRACT

Objectives: To improve patient's satisfaction, reduction of post operative dysphagia, and the possibility of using this technique modification in all cases, despite alterations in esophageal motility.

Methods: Fundoplication was performed with the following features: a) 360°, b) Symmetrical: sutured to the right side of the esophagus, c) Longer: 4 to 5 cm., d) Floppy: calibration up to 68 Fr gauge, e) Restoring the Angle of His (suturing it to the left side of the esophagus). Previous experience obtained in pig models demonstrated the efficiency and safeness of the technique. The preoperative evaluation for all our patients included the following: complete history and physical examination, upper gastrointestinal contrast study, esophagogastroduodenoscopy with biopsy, esophageal manometry, and 24-hour esophageal pH monitoring. Surgery in all our patients was performed by the same surgeon. A survey to evaluate postoperative dysphagia and satisfaction level was administered during the follow-up period, as well as postoperative esophagogastroduodenoscopy two months later.

Results: Between January 2000 and December 2006, 252 patients with GERD underwent laparoscopic fundoplication with these technical modifications. 127 patients were excluded from the study because of concomitant surgeries (cholecystectomy, hernia repair, vagotomy, pyloroplasty, gastrectomy, mesh using crural repair). The mean follow-up was 4.14 years. There were 88 men (70.4%) and 37 women (29.6%). The mean duration of preoperative symptoms of GERD was 4.1 years. Transient postoperative mild dysphagia was observed in 112 patients (89.6%) that improved without any intervention. Severe dysphagia was observed in 3 patients (2.4%) requiring only one endoscopic dilation. Visick Score I-II was 99.2%. Of the 125 patients, 123 (98.4%) reported that they were satisfied with the result of surgery at 4.14-year follow-up. When asked whether they would have the operation again, 124 (99.2%) answered affirmatively.

Conclusions: Laparoscopic fundoplication with this modified technique is feasible, safe and effective compared with classical Nissen fundoplication, improves transient postoperative dysphagia and long term patient satisfaction. Controlled multicentric trials to support this technical proposal are still necessary.

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LAPAROSCOPIC HELLER PROCEDURE FOR THE TREATMENT OF ESOPHAGEAL ACHALASIA

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Background. The need of fundoplication while the Heller procedure is still controversial. It was proved, that fundoplication reduces the rate of gastroesophageal reflux, but increases surgery time and may increase the recurrence rate. Thus, we hypothesized that fundoplication must have exact indications, such as achalasia, associated with hiatal hernia and preoperative gastroesophageal reflux. So, this principal was used in our survey. The aim: to assess the results of laparoscopic Heller procedure with and without fundoplication.

Methods and procedures. From 1995 till 2004 laparoscopic Heller myotomy were performed in 50 patients with esophageal achalasia. There were 11 patients with spindle type of lesion, 25 patients with the flask type and 14 patients with sigmoid type of lesion. Heller procedure was completed by fundoplication in 28 patients (I group) (Dor fundoplication in 23 patients and Toupet fundoplication in 5 patients). No fundoplication was used in 22 patients (II group). The results were assessed by dysphagia and heartburn symptom rating scale, esophageal motility study, X-ray, endoscopy and 24-h pH-testing. Mean follow-up period was 5 years (range 3–10).

Results. In the I group there was no gastroesophageal reflux, but 3 (10, 7 %) patients with the sigmoid type of lesion had a relapse. Therefore, they required frequent balloon dilations. In the II group there was no relapses (including sigmoid type patients), but 1 patient (4, 5 %) experienced moderate reflux. Thus, using accurate indications for adding fundoplication to cardiomyotomy, we improved the results of treatment of esophageal achalasia.

Conclusions. An antireflux procedure is necessary when the achalasia is associated with hiatal hernia and gastro-esophageal reflux. No antireflux procedure is advisable in patients without these factors to prevent the relapse of the disease, especially in sigmoid type of esophageal achalasia.