Endoluminal fundoplication with the Esophyx*-device versus proton-pump-inhibition in treatment of Gastro-esophageal reflux disease (GERD).

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The purpose of this prospective randomized controlled trial is to demonstrate that the EsophyX-TIF procedure will be more effective than PPI therapy as a short and long-term treatment of GERD.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Gastrointestinal disorders
Study type	Interventional

Summary

ID

NL-OMON31490

Source
ToetsingOnline

Brief title
Endoluminal fundoplication (Esophyx-device)

Condition

- Gastrointestinal disorders
- Gastrointestinal therapeutic procedures

Synonym
gastro-esophageal relux disease; reflux-disease, heartburn

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Ziekenhuis Maastricht
Source(s) of monetary or material Support: Ministerie van OC&W,de studie wordt medegefinancieerd door Endogastric Solutions,Endogastric solutions, Seattle, USA

Intervention

Keyword: Endoluminal, Esophyx, fundoplication, GERD

Outcome measures

Primary outcome

Quality of life-scores (GERD-HRQL, EuroQol and GSRS)

Secondary outcome

Use of anti-GORZ-medication

Cost-effectiveness-analysis

Complications and adverse effects

Esophagusbiopsy and blood samples will be compared

24-h-pH-metry/impedance-measurements

Study description

Background summary

Gastro-esofageal refluxdisease (GERD) is common in Western society. This reflux is not only painful and uncomfortable, but can severely damage the oesophageal lining, cause chronic inflammation, and can lead to permanent damage and cancer of the oesophagus. In severe or chronic GERD, regurgitation occurs regularly,

spilling chime not only into the esophagus, but also into the lungs, mouth and pharyx, causing astma-like symptoms, dental erosions and ENT-disaeses.

The primary treatments for gastroesophageal reflux disease (GERD) were lifestyle changes, medications or surgery, until today, when an additional option that mimics surgery but involves no abdominal or internal incisions has become available.
Current medical treatment of GERD includes drugs, such as H2 blockers and proton pump inhibitors, which neutralize or suppress the stomach acid and help relieve symptoms. However, these drugs are expensive, they don*t work for everyone, (5-20% non-responders) and there are many people who do respond worse to them over time. These drugs however do not correct the root cause of GERD (anatomic disintegration of the antireflux barrier) so symptoms return when the medication is stopped.

The primairy treatement of GERD were medications or surgery (Nissen Fundoplication). Medication neutralize or suppress the stomach acid and help relieve symptoms, However, these drugs are expensive, they don*t work for everyone, (5-20% non-responders) and there are many people who do respond worse to them over time. These drugs however do not correct the root cause of GERD (anatomic disintegration of the antireflux barrier) so symptoms return when the medication is stopped. Antireflux surgery (ARS) is the alternative in case of failed medical therapy.
For the non-responders to drug treatment, the Nissen fundoplication is proven effective and the current standard of treatment, however, this surgery is an invasive therapy.

A new technique was intoduced recently: the endoluminal fundoplication with the Esophyx-device. To evaluate this new technique we would like to set up a randomised trial. In this trial the Esophyx will be comared to PPI-treatment. End-points will be: quality of life, use of medication and reflux-measurements.

Study objective

The purpose of this prospective randomized controlled trial is to demonstrate that the EsophyX-TIF procedure will be more effective than PPI therapy as a short and long-term treatment of GERD.

Study design

Intervention: Endoluminal fundoplication with the EsophyX-device.

In general, the work up for ELF is similar to the usual workup that is done for laparoscopic fundoplication surgery. After the patient has discontinued PPI *s for at least 5 days, the following workup will be performed at their evaluation visit:

* GERD medication status documenting > 5 days off PPI
* Gastroscopy
Gastroscopy is typically the first test performed to confirm a symptom-based diagnosis of GERD and is most valuable for excluding gastric and duodenal pathologic conditions and detecting the presence of Barrett's esophagus
* 24-hour pH or pH-impedance testing
Ambulatory pH monitoring is the most reliable test for the diagnosis of GERD, with a sensitivity and specificity of about 92%.It is of key importance in the workup for the following four reasons.
1. It determines whether abnormal reflux is present. Obviating the continuation of inappropriate and expensive drugs (e.g., PPIs) or the performance of a fundoplication. In addition, normal pH monitoring prompt further investigation that in a number of cases points to other diseases (e.g., cholelithiasis and irritable bowel syndrome).
2. It establishes a temporal correlation between symptoms and episodes of reflux. Such a correlation is particularly important when atypical GERD symptoms are present because 50% of these patients experience no heartburn and 50% do not have esophagitis on gastroscopy.
3. It allows staging on the basis of disease severity. Specifically, pH monitoring identifies a subgroup of patients characterized by worse esophageal motor function (manifested by a defective LES or by abnormal esophageal peristalsis), more acid reflux in the distal and proximal esophagus, and slower acid clearance. These patients more frequently experience stricture formation and Barrett metaplasia and thus might benefit from early antireflux surgery.
4. It provides baseline data that may prove useful postoperatively if symptoms do not respond to the procedure.

* Manometry
Oesophageal manometry provides useful information about the motor function of the esophagus by determining the length and resting pressure of the lower oesophageal sphincter (LES) and assessing the quality (i.e., the amplitude and propagation) of esophageal peristalsis. In addition, it allows proper placement of the pH probe for ambulatory pH monitoring (5 cm above the upper border of the LES).

* Upper GI Barium swallow (to assess hiatal hernia)
An upper GI series is useful for diagnosing and characterizing an existing hiatal hernia. The size of the hiatal hernia helps predict how difficult it will be to reduce the esophagogastric junction below the diaphragm. In addition, large hiatal hernias are associated with more severe disturbances of esophageal peristalsis and esophageal acid clearance. Esophagograms are also useful for determining the location, shape, and size of a stricture and detecting a short esophagus.

* GERD-HRQL score, EuroQol and GESRS

ELF-procedure

Discontinuation of all anticoagulants and platelet agents (including aspirin) > 10 days before the elf procedure will be organized if applicable. The patient should be instructed not to eat of drink for at least 12 hours before the ELF procedure

The ELF procedure will be performed under full endoscopic visualization and under general anesthesia (naso-tracheal intubation). The patient is positioned in supine position. Pre- and post procedure Functional Lumen Imaging Probe (FLIP) will be inserted for dynamic evaluation of the integrity of the GE-junction. FLIP will be performed again after 6 month follow-up. The Esophyx* device is placed over the gastroscope, inserted trans-orally through a bite block and advanced into the insufflated stomach. The z-line is visualized through the window in the shaft of the esophyx device, and the invaginator (vacuum suction) is engaged to hold the esophagus. The device is advanced distally until the z-line is at the level of the diaphragm to reduce hiatal hernia. Now that the esophagus and stomach are in the correct position, back in the stomach the helical retractor is deployed to engage stomach tissue to the level of the serosa and a long flap of tissue (3-5 cm) is pulled. This serosa-to-serosa flap of tissue is drawn into the tissue mold and locked in place. Polypropylene fasteners are delivered across the serosa-to-serosa fundus tissue using a stylet to penetrate the tissue ahead of the fastener and a pusher to advance the over-the-wire fasteners. This forms a full-thickness serosa-to-serosa plication. The system is now disengaged by releasing the tissue mold, helical retractor and invaginator. The process is then repeated circumferentially until a 220- 270º valve that is 3-5 cm deep is created (generally involving placement of ~14 fasteners).
A post-procedure endoscopy is performed to assess for any procedure related complications and to evaluate, measure, and grade the newly created valve. Photos of the valve should be obtained and submitted. The patient will be monitored in a hospital setting for 24 hours after the procedure, to continue observing for any side effects. Before the patient is discharged, they will be given a patient brochure of post-procedure (dietary-)instructions. Medications are stopped one week post procedure, but can be taken on demand and noted in a medication-diary.

Medication-group

This group is a control-group. No intervention will be done, this group will continue GERD-medication (step-down regime). Follow-up period has a minimum of 6 months. After 6 months the control-group will have the opportunity to undergo the actual ELF-procedure (cross-over-design).

Intervention

Discontinuation of all anticoagulants and platelet agents (including aspirin) > 10 days before the elf procedure will be organized if applicable. The patient should be instructed not to eat of drink for at least 12 hours before the ELF

procedure

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This group is a control-group. No intervention, this group will continue GERD-medication (step-down regime). Follow-up period has a minimum of 6 months. After 6 months the control-group will have the opportunity to undergo the actual ELF-procedure (cross-over-design).

Study burden and risks

Interventiongroup: narcosis, bleeding, esophageal perforation
Control-group: risk of PPI-use

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

1. Age 18-75 years
2. Hiatal hernia3. Normal or lowered LES-pressure on manometry-measurements
4. 24-uurs pH-measurements (off-PPI) < 4,5 more than 4% of total time
5. GERD-symtoms
6. On daily PPI's for > 1 year
7. Signed informed consent

Exclusion criteria

1. Immobile or non-reducible hiatal hernia
2. Hiatal hernia >2 cm
3. Esophagitis grade D
4. Barret's Esophagus
5. Esophageal stricture
6. Esophageal ulcer
7. Esophageal motility disorder
8. Gastric motility disorder

9. Prior sleenectomy
10. Gastric paralysis
11. Pregnancy
12. Immunosuppression
13. ASA >2
14. Abnormal manometry-measurements
15. History of stomach-surgery
16. BMI >35
17. Portal hypertension
18. Coagulation disorders
19. Mental retardation
20. Lack of fluency in English

Study design

Design

Study phase:	3
Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-06-2008
Enrollment:	60
Type:	Actual

Ethics review

Approved WMO

Date:	30-01-2008
Application type:	First submission

Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)
Approved WMO Date:	09-06-2008
Application type:	Amendment
Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)
Approved WMO Date:	09-12-2008
Application type:	Amendment
Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL17303.068.07