The association between gastroesophageal reflux episodes and supragastric belches

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We aim to investigate the association between reflux episodes and supragastric belches using the technique of combined HRM and impedance monitoring.

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Gastrointestinal motility and defaecation conditions
Study type	Observational invasive

Summary

ID

NL-OMON35792

Source
ToetsingOnline

Brief title
Belching and GERD

Condition

- Gastrointestinal motility and defaecation conditions

Synonym
heartburn

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: belching, GERD

Outcome measures

Primary outcome

The occurrence of a specific gastroesophageal pressure-flow pattern preceding

or during a supragastric belch coinciding with a reflux episode.

Secondary outcome

The number of supragastric belches

The number esophageal reflux episodes

Study description

Background summary

The majority of belches originates from the stomach. However, in some patients the eructated air does not originate from the stomach but is sucked or injected in the esophagus from the pharynx and expelled immediately afterwards in oral direction. This behavior is called supragastric belching because the air does not originate from the stomach and does not reach the stomach either1. Supragastric belches are, in contrast to gastric belches, under voluntary control.
We recently observed that in a small group of GERD patients supragastric belches occur in close temporal relation with gastroesophageal reflux episodes2. Supragastric belches could either immediately precede a liquid reflux episode (<1s) or occur during a liquid reflux episode. It is currently not known whether supragastric belches induce reflux episodes or occur in response to reflux episodes. If, however, these episodes are studied in more detail, the pathophysiological mechanism underlying these episodes could be unraveled.

The lower esophageal sphincter is located between the stomach and the esophagus. Under normal circumstances, the pressure in the lower esophageal sphincter exceeds gastric pressure. This prevents flow between stomach and esophagus, thereby preventing gastroesophageal reflux episodes. However, gastroesophageal reflux episodes can occur during short relaxations of LES pressure, also known as TLESRs or during an increase in gastric pressure which

exceeds the pressure in the LES, also known as straining3. High resolution manometry (HRM) is a relatively new method to investigate esophageal and gastric pressure and the properties of the lower esophageal sphincter (LES) in detail4. Esophageal impedance monitoring is a technique that can be used to detect supragastric belches and reflux episodes. These techniques can be combined to investigate the association between supragastric belches and reflux episodes and the mechanisms at play5.

We hypothesize that an increased intragastric pressure following a supragastric belch can result in a gastroesophageal reflux episode. Furthermore, a relaxation of the lower esophageal sphincter following a supragastric belch can result in a gastroesophageal reflux episode.

Study objective

We aim to investigate the association between reflux episodes and supragastric belches using the technique of combined HRM and impedance monitoring.

Study design

A prospective study using combined high-resolution manometry and impedance measurements.

Study burden and risks

Patients have to travel to the AMC. There are no known risks associated with these investigations.

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

>10 supragastric belches preceding reflux episodes

Exclusion criteria

Disorders or medication which can influence GI motility

Study design

Design

Study type: Observational invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-01-2012
Enrollment:	20
Type:	Actual

Ethics review

Approved WMO

Application type:	First submission
Review commission:	METC Amsterdam UMC

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	NL37304.018.11