

Tu2020 — 2019

TRANSORAL INCISIONLESS FUNDOPLICATION: EFFECTIVENESS IN IMPROVING TYPICAL AND ATYPICAL SYMPTOMS OF GASTROESOPHAGEAL REFLUX DISEASE INCOMPLETELY CONTROLLED WITH MEDICAL THERAPY

Technologies and Procedural Innovation

Endoscopy: New Therapeutic Technology

Presented on Tuesday, May 21, 2019 12:00 PM

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Introduction

With increasing prevalence of gastroesophageal reflux disease (GERD) worldwide, reflux symptoms have been associated with the cancer risk and reduced quality of life. Anti-reflux surgery has been the mainstay of treatment in GERD refractory to standard medical therapy; however adverse events such as dysphagia, flatulence, inability to belch, and invasiveness of surgical procedure remain a concern. Transoral incisionless fundoplication (TIF) has been considered a minimally invasive procedure. Studies have reported good efficacy and safety profile making TIF a promising procedure to fill the gap between medical and surgical approach. Our purpose was to assess the efficacy of TIF in patients with chronic refractory GERD in controlling heartburn, regurgitation, dysphagia or atypical symptoms using quality of life questionnaire and scoring system that assesses laryngopharyngeal reflux (LPR).

Methods

Forty-one participants with a long-standing history of GERD refractory to adequate acid suppressants underwent TIF after appropriate pre-operative assessment. Median follow-up period was 9 months. The primary outcome was patient satisfaction by assessing pre and post GERD Health Related Quality of Life Questionnaire (GERD-HRQL) and Reflux Symptom Index (RSI) scores along with the reduction in the use of proton pump inhibitors (PPI) or histamine antagonists (H2 blockers).

Results

Our study showed a significant difference in the scores for heartburn pre-TIF (M=15.81) and post-TIF (M=5.69); $t(40)=7.16$, $p < .001$. Dysphagia and regurgitation scores were reduced considerably after TIF with p -values $< .006$ and $< .001$, respectively. Mean GERD-HRQL scores were 31.44 pre-TIF and 11.79 post-TIF ($p < .001$). In all patients, pre and post-TIF Reflux Symptom Index (RSI) scores demonstrated statistical significance ($p < .001$). In patients requiring acid suppressants after the TIF, mean GERD-HRQL scores were 35.09 pre-TIF and 17.56 post-TIF ($p < .002$), and mean RSI scores were 8.09 pre-TIF and 5.63 post-TIF ($p < .047$).

Discussion

In conclusion, TIF improves quality of life by reducing both typical and atypical symptoms. At short-term follow-up, TIF eliminates the need for PPI therapy in a majority of patients. After the TIF, quality of life in those who went back on acid suppressants improved. Our study supports the recent findings of TIF's superiority to conventional medical therapy and its effectiveness in yielding significant improvement in patients with refractory GERD symptoms.

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| | Pre-TIF Mean Score | Post-TIF Mean Score | <i>p</i> value |
|---------------|--------------------|---------------------|----------------|
| Heartburn | 15.81 | 5.69 | .001 |
| Dysphagia | 1.65 | 0.75 | .006 |
| Regurgitation | 13.77 | 5.22 | .001 |
| GERD-HRQL | 31.44 | 11.79 | .001 |
| RSI | 7.80 | 4.14 | .001 |

Table 1: Mean Pre-TIF and Post-TIF scores evaluated by GERD-HRQL (individual heartburn, dysphagia and regurgitation scores) and RSI questionnaires at the median age of 9 months follow up after TIF.

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| | Pre-TIF Score | Post-TIF Score | <i>p</i> value |
|-----------|---------------|----------------|----------------|
| GERD-HRQL | 35.09 | 17.56 | .002 |
| RSI | 8.09 | 5.63 | .047 |

Table 2: Mean Pre-TIF and Post-TIF scores evaluated by GERD-HRQL and RSI questionnaires at the median age of 9 months follow up after TIF in patients who started acid suppressants (PPI or H2 blockers) after TIF.

Disclosure: N. Shah: No Conflicts; S. Javia: No Conflicts; B. Shah: No Conflicts; R. Patel: No Conflicts; A. Sohagia: No Conflicts;

Transoral Incisionless Fundoplication: Effectiveness in Improving Typical and Atypical Symptoms of Gastroesophageal Reflux Disease Incompletely Controlled with Medical Therapy

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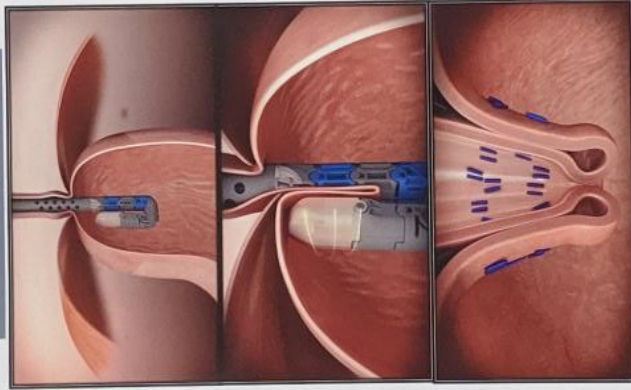
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- With increasing prevalence of gastroesophageal reflux disease (GERD) worldwide, reflux symptoms have been associated with the cancer risk and reduced quality of life.
- Anti-reflux surgery has been the mainstay of treatment in GERD refractory to standard medical therapy; however adverse events such as dysphagia, flatulence, inability to belch, and invasiveness of surgical procedure remain a concern.
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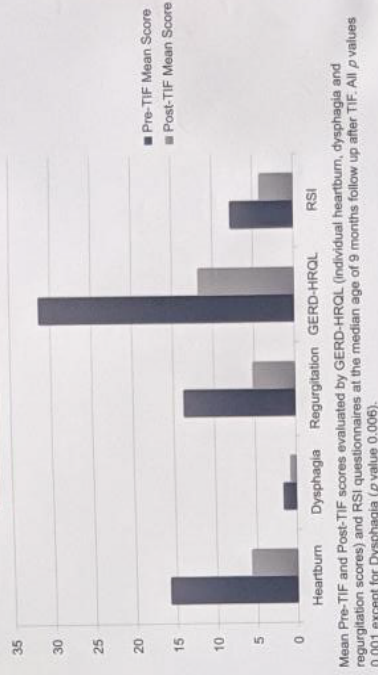
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THE PROCEDURE



RESULTS



DISCUSSION

- In conclusion, TIF improves quality of life by reducing both typical and atypical symptoms.
- At short-term follow-up, TIF eliminates the need for PPI therapy in a majority of patients.
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GERD-HRQL QUESTIONNAIRE

How bad is your heartburn?
Do you have heartburn when lying down?
Do you have difficulty swallowing?
Do you have pain with swallowing?

REFLUX SYMPTOM INDEX

Hoarseness or problem with your voice
Clearing your throat
Coughing after you eat or after lying down
Breathing difficulties or choking episodes

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