

Transoral Incisionless Fundoplication (TIF 2.0): A Meta-Analysis of Three Randomized, Controlled Clinical Trials

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Abstract

Background & Aims: The TIF procedure has emerged as an endoscopic treatment for patients with refractory gastro-esophageal reflux disease (GERD). Previous systematic reviews of the TIF procedure conflated findings from studies with modalities that do not reflect the current 2.0 procedure technique or refined data-backed patient selection criteria. A meta-analysis was conducted using data only from randomized studies that assessed the TIF 2.0 procedure compared to a control. The purpose of the meta-analysis was to determine the efficacy and long-term outcomes associated with performance of the TIF 2.0 procedure in patients with chronic long-term refractory GERD on optimized PPI therapy, including esophageal pH, PPI utilization and quality of life.

Methods: Three prospective research questions were predicated on the outcomes of the TIF procedure compared to patients who received PPI therapy or sham, concomitant treatment for GERD, and the patient-reported quality of life. Event rates were calculated using the random effect model. Since the time of follow-up post-TIF procedure was variable, analysis was performed to incorporate the time of follow-up for each individual patient at the 3-year time point.

Results: Results from this meta-analysis, including data from 233 patients, demonstrated that TIF subjects at 3 years had improved esophageal pH, a decrease in PPI utilization, and improved quality of life.

Conclusions: In a meta-analysis of randomized, controlled trials (RCTs), the TIF procedure data for patients with GERD refractory to PPI's produces significant changes, compared with sham or PPI therapy, in esophageal pH, decreased PPI utilization, and improved quality of life.

Key words: Transoral Incisionless Fundoplication, TIF 2.0, Systematic Review, Meta-Analysis, Randomized Controlled Clinical Trials TIF 2.0, efficacy and long-term outcomes associated with performance of the TIF 2.0 procedure in patients with chronic long-term refractory GERD on optimized PPI therapy