Refux Surgery For Improved TEP Outcomes After Laryngectomy

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INTRODUCTION

Laryngopharyngeal reflux (LPR) can be summarized as the reflux of gastric contents superiority, conflicting structures of the laryngopharynx and clinical manifestations, including pharyngolaryngeal discomfort, esophageal inflammation, or other signs of long-term esophageal damage. Many patients are seen in our office with symptoms consistent with reflux disease, many of whom have refractory symptoms and potential for serious implications.1,2

Although generally, the post-laryngectomy population no longer manifests the specific laryngopharyngeal manifestations of LPR, the incidence of reflux, particularly in the level of the neopharynx in this population, has not been specified in the literature. The incidence of reflux, however, is cited to be high in this population. A new and novel concept in general. The reason for the higher incidence in this group has been linked to various factors, most predominantly, their history of smoking and alcohol use. The direct correlation of these substances to reflux is well documented and may damage to some extent clinical management in this population for reflux associated morbidity in recent years.3

Within the laryngectomized population, post-operative changes, the exposure of the laryngopharyngeal reflux system as well as the functional role of the tissues, by default for deglutitive purposes, can contribute to increased reflux; thereby, potentially leading to altered swallowing patterns.4

In addition, there is also evidence suggesting the sarcoma of these patient’s experience secondary to radiotherapy effects, may contribute to the increased clinical manifestations of reflux in this population due to the diminished neuromuscular effects of a surgical or protective effect against reflux damage to affected structures 5.

In the post-laryngectomy population, reflux has been shown to contribute significantly to hoarsenessophageal reflux (TEP) outcomes. A significant association between reflux disease, with the incidence as well as severity of such manifestations. 6,7,8

The incidence of reflux in this population has been of significant, in fact, it has led some researchers to suggest all post-laryngectomy patients undergoing surgical voice restoration be placed preoperatively for proton pump inhibitor (PPI) to determine associated TEP complications, particularly in the management of such complications.9,10,11

Both intrinsic and extrinsic endoscopic features of reflux, rather than reduction of its acidic component then, may prove evident in this regard, particularly in regards to the mechanism of acid reflux. PPI use has been shown to have a significant effect on reducing the incidence and severity of reflux and the need for Demeester values,12 there is no mechanism inherent to the pH which entirely presents the incidence of reflux of gastric contents into the esophagus.

METHODS AND MATERIALS

To more closely examine any potentially increased benefits of fundoplication vs. PPI utilization in this population, the specific management of TEP complications in the post- laryngectomy population, the current state of the literature, and the need for further evaluation of the role of acid suppression in this population were examined.

A total of 111 patients were identified as post-laryngectomy, of which 75 were noted to have presence of esophageal sphincter. Of these patients, 63 were noted to have a reflux associated symptom complex and initiated on a reflux management protocol, including the utilization of the PPI unless otherwise contraindicated.

In this population, there were 4 patients who underwent a fundoplication for persistent reflux-associated symptoms not responsive to PPI utilization, including but not limited to TEP complications not responsive to PPI utilization. These patients were all referred for further evaluation and treatment of persistent symptoms following a S-TEP PPI utilization. Evidence of reflux was determined using transnasal endoscopy, barium per os and oropharynx in 4 patients.

The Nissen fundoplication is a procedure well-documented to significantly reduce and/or eliminate the occurrence of reflux.13 This is a surgical procedure wherein the fundus of the stomach is placed around the esophagus and secured into place thereby creating a “two-compartment” which largely prevents the occurrence of gastroesophageal reflux.

RESULTS

Prosthetic device life (safety) as well as the presence of peri-prosthetic leakage was compared in pre-operative and post-operative groups. None of the four were found to have granulation tissue formation or visible difficulties when referred for surgical intervention.

Two of four were noted to have peri-prosthetic leakage prior to fundoplication with all four demonstrating limited device life with mean survival over time at 34.3, 37.1, and 72.7 respectively with no significant change in device lifetime noted after 6 months of PPI therapy: 49 months.

Postoperatively, both individual and group mean device life was noted to be significantly longer than preoperatively and was noted at 43.7 respectively. Group mean increase was noted as 32.02 with a noted trend toward less significant change, p=0.0458.

Illustration 1. The Nissen fundoplication

Table 1. TEP device life, pre and post Nissen

Although PPI treatment has been found to be an effective intervention for improving TEP outcomes, some patients continue to experience different complications, poorly managed types of routine PPI utilization.

The theory suggests the presence of gastric contents may be implicating these complications. Although the higher acid content associated with non-PPI utilization is likely to result increased complications and possibly influence some of these complications, the potential for complications associated with gastric contents in this particular population are not well studied in the literature. 14

In patients who have undergone TEP with use of rescue PPI, use has been shown to have a significant effect on reducing the incidence and severity of reflux and the need for Demeester values,12 there is no mechanism inherent to the pH which entirely presents the incidence of reflux of gastric contents into the esophagus.

CONCLUSIONS

Although a small sample size was demonstrated here, surgical intervention of this nature is not conducted without comprehensive data being present, as such, we believe the potential for complications must be medically managed to satisfaction. Very few patients are likely to be left untreated for laryngopharyngeal reflux disease, which may lead to potentially catastrophic consequences.

This sample data, however, surgical intervention may be seen as an effective means of reducing associated complications in those non-viable. We believe this data may prove to be a useful approach to complications of this nature.

REFERENCES


