

Heterotopic Gastric Mucosa in the Esophagus: An Association between Laryngopharyngeal Reflux and Laryngeal Carcinoma

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Abstract

We present a rare and, to our knowledge, the first case of association between esophageal heterotopic gastric mucosa with laryngopharyngeal reflux symptoms and laryngeal carcinoma.

Keywords: Heterotopic Gastric Mucosa; Esophagus; Laryngopharyngeal Reflux; Radiofrequency Ablation

Introduction

Heterotopic gastric mucosa (HGM) is often endoscopic finding in cervical esophagus. It found in all parts of the esophagus too.

The clinical significance of gastric heterotopia in the esophagus has been a matter of debate for many years. Most carriers are asymptomatic. However, the capacity of acid and mucus secretion from the HGM may induce laryngopharyngeal reflux symptoms. Literature reports contains complications of HGM, including erosive and ulcerative lesions, upper esophageal rings, stenosis, esophagobronchial fistulas, perforations and even adenocarcinoma [1].

To date, there is no standardized approach to treatment of patients with HGM in the esophagus with the absence of guidelines for management. Many authors report that asymptomatic gastric heterotopia of the esophagus does not require treatment. When symptoms of laryngopharyngeal reflux appear, it is justified to prescribe proton pump inhibitors, H2 receptor antagonists and antacids. But the effect of conservative therapy is often unstable [2].

Endoscopic methods of treatment aimed at eradication of foci of HGM in the esophagus may be a priority [3].

Case Report

A 44-year-old non-smoker female presented to gastroenterologist with a 4-year history of heartburn and hoarseness up to loss of voice. Laryngitis was diagnosed after numerous consultations by otorhinolaryngologist; treatment of GERD was recommended. She took proton pump inhibitors for a long time and noted recovery of voice periodically. In October 2021, during upper gastrointestinal endoscopy (Fujinon ELUXEO 7000), when examining the larynx carefully, lesion of the middle part of the larynx was suspected. Multiple rounded flat foci of heterotopic gastric mucosa, salmon colored, measuring approximately 0.1 to 0.4 cm in the middle and lower third of esophagus

were revealed (Figure 1). HGM of the largest size, up to 1.5x1 cm with elevated surface, surrounded epithelializing erosions up to 1x0.2 cm in the middle esophagus aroused the great clinical interest (Figure 2). The stomach and duodenum were normal.

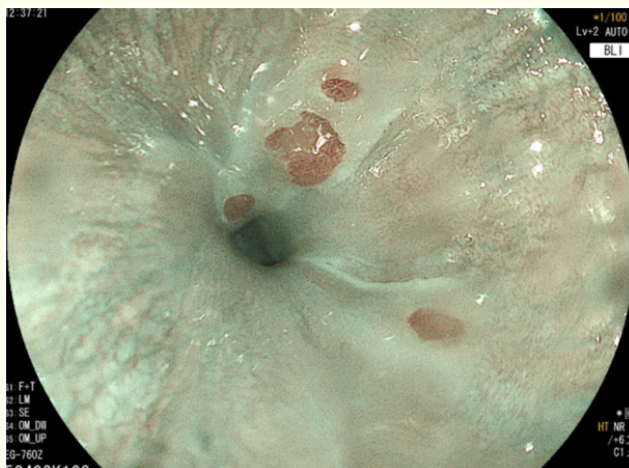


Figure 1: Multiple foci of heterotopic gastric mucosa in the esophagus seen in BLI (Blue Light Imaging).

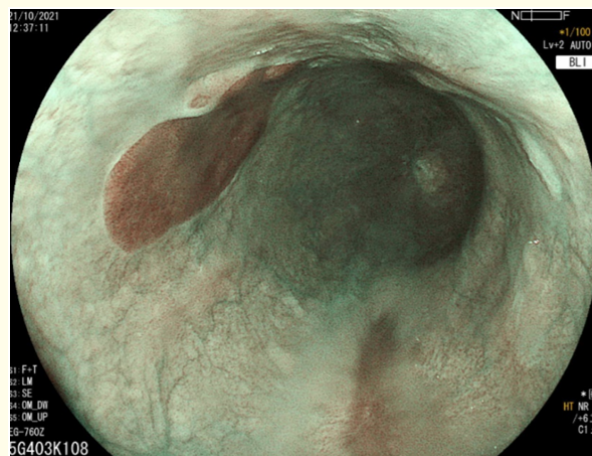


Figure 2: Heterotopic gastric mucosa in the middle esophagus surrounded epithelializing erosions seen in BLI (Blue Light Imaging).

Detailed examination of HGM was performed under conscious sedation, when proton pump inhibitors were excluded for 10 days. Using BLI option and ZOOM pit pattern conforming to cardiac and fundal type of the gastric epithelium was determined. Black surfaces of HGM were occurred after staining with 0.2% Congo red (Figure 3 and 4). Histopathologic examination of the biopsy samples taken from the HGM showed acid-secreting, oxyntic-type, glandular, gastric epithelium without intestinal metaplasia or dysplasia.

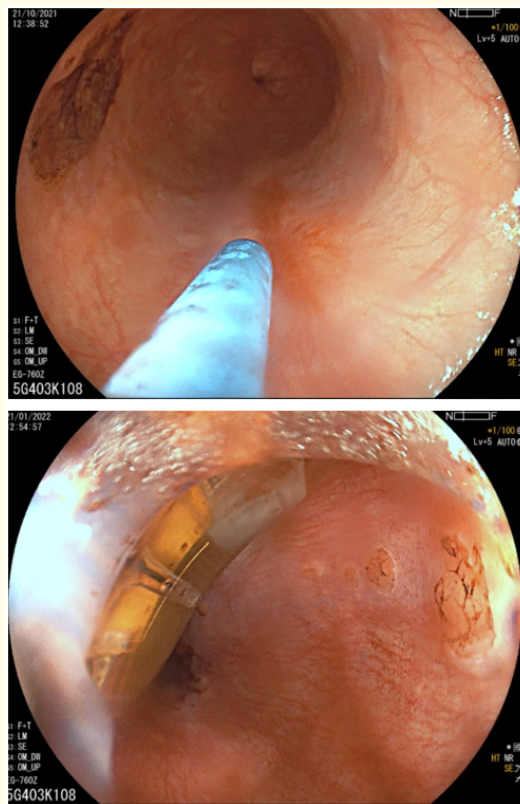


Figure 3 and 4: Chromoendoscopy using 0.2% Congo red after RFA –surfaces of acid production of HGM becomes black.

Taking into the suspicious lesion of the larynx, next step was bronchoscopy (Olympus BF-P180). Flat-raised lesion, whitish colored with foci of depression on the true vocal folds was detailed (Figure 5 and 6). Histological examination showed intraepithelial squamous cell carcinoma.

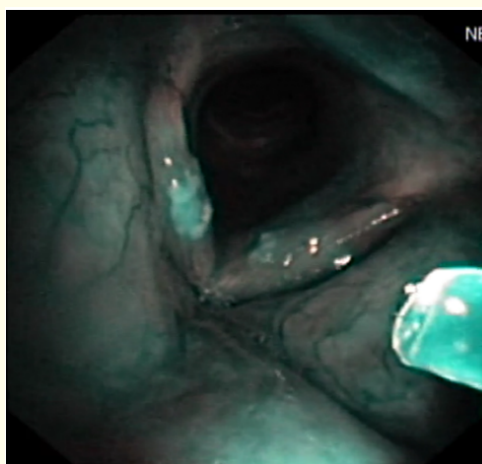


Figure 5: Intraepithelial squamous cell carcinoma of middle part of larynx seen NBI.

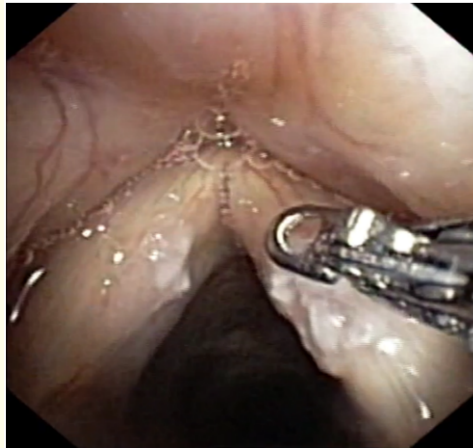


Figure 6: Intraepithelial squamous cell carcinoma of middle part of larynx.

The patient underwent end laryngeal resection of the middle part of the larynx.

It is known that epithelium of laryngopharyngeal mucosa is most sensitive to acidic and non-acidic gastrointestinal reflux. Chronic reflux induces inflammatory changes in the laryngopharyngeal mucosa and activation of oncogenic factors leading to the development of laryngeal carcinoma [4]. Sean M. Parsel, *et al.* demonstrated significant association between laryngopharyngeal reflux and risk of laryngeal malignancy without smoking and alcohol as additional risk factors [5].

The existing association in the patient, most likely caused by presence of heterotopia gastric mucosa in the esophagus with acid secretion, should direct further treatment of laryngopharyngeal reflux as prevention of recurrence of laryngeal cancer.

Many authors report low efficiency of conservative therapy for heterotopic gastric mucosa in the esophagus [2]. To date, radiofrequency ablation (RFA) has been recognized as effective and safe method in the treatment of HGM in the esophagus [3].

In January 2022, the patient underwent endoscopic esophageal RFA of HGM with Barrx™ 90 RFA Focal Catheter.

Conclusion

Treatment and prevention of laryngopharyngeal reflux in patients with laryngeal carcinoma is important issue. Determination of clinical significance of HGM in the esophagus and using of effective and safe RFA should be preferred.

Conflict of Interest

The authors declare no conflict of interest.

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