Esophageal Squamous Cell Carcinoma – A Case Of Near Miss And Trusting Clinical Gestalt

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BACKGROUND

Esophageal cancer is the eighth most common cancer in the world and the sixth leading cause of death from cancer, with squamous cell neoplasia being the predominant histological subtype. Esophageal squamous cell neoplasia is often subtle, and sometimes difficult or impossible to see under white light endoscopy, leading to the use of chromoendoscopy to aid in the visualization of these neoplastic areas.

Lugol’s chromoendoscopy (LCE) is a reliable tool for identifying lesions with high grade dysplasia for targeted biopsy but lacks sensitivity for low grade lesions which may go undiagnosed and therefore delay treatment.

CASE SUMMARY

We present the case of a 64-year-old female with a prior history of gastroesophageal reflux disease (GERD), who developed symptoms of progressive dysphagia to both solids and liquids over a six-month duration requiring serial upper endoscopy (EGD) with dilation of strictures. Histopathology from biopsy specimens revealed evidence of Barrett’s esophagus in the distal esophagus as well as esophageal ulceration with scattered positive staining herpes esophagitis. She was treated with a seven-day course of Acyclovir in addition to up titrating her anti reflux therapy to twice daily proton pump inhibitor along with four times daily Sucralfate. Over the next few months, serial EGDs with repeated balloon dilation of the esophageal stricture was done. Repeat biopsies during these procedures showed lymphocytic esophagitis and re-demonstration of Barrett’s esophagus. She was given a two-month course of oral swallowed budesonide slurry for treating lymphocytic esophagitis.

The patient continued to have symptoms of worsening dysphagia requiring further EGD with balloon dilation of strictures. Consecutive biopsies taken from the site of the strictures in the proximal esophagus now revealed squamous cell dysplasia prompting advanced testing including LCE, which showed numerous patches of non-staining epithelium throughout the esophagus (Figure A). Endoscopic ultrasound (EUS), was done at the same time showed patchy wall thickening in the distal esophagus along with multiple mucosal nodularity(Figure B). Targeted biopsies of these lesions during the procedure surprisingly were unable to identify any malignant lesions. Over time, further endoscopies triggered by high clinical suspicion and persistence of symptoms, revealed lesions with marked epithelial abnormalities including multiple epithelial nodules (Figure C) and submucosal invasion (Figure D) concerning for malignancy. The patient was eventually referred for surgical esophagectomy and histopathology confirmed early-stage squamous cell carcinoma without any lymph node involvement (T1bN0M0).

DISCUSSION AND TAKEAWAYS

Esophageal cancer carries a high burden of mortality and is an increasing cause of cancer related deaths. While survival rates have been increasing, they remain low. This is mainly associated with diagnosis occurring at advanced stages, typically due to delayed onset of symptoms, and the proximity of the lymphatic system in the lamina propria of the esophagus. Squamous cell carcinoma produces subtle mucosal changes which frequently go unnoticed in routine endoscopy. Techniques including chromoendoscopy using Lugol’s solution (LCE) and narrow band imaging (NBI) are a fairly effective modality for identifying abnormal epithelium for target biopsies, the possibility of false negatives does remain. This is particularly problematic for lower grade or early dysplastic lesions. A recent large population-based study conducted in a high-risk region of China reported LCE having a sensitivity of only 45.9% and 55.3% for mild to moderate dysplasia respectively. Developing more accurate screening modalities including standardized staining protocols, higher resolutions endoscopes and aggressive training modules to identify lower grade lesions is needed. This presents a challenge, as esophageal squamous cell cancer has a higher preponderance in under-developed and resource strapped countries of the world. This case exemplifies the limitations of LCE, and other advanced forms of endoscopy including EUS, in detecting low grade neoplastic lesions. It therefore reinforces the importance of keeping a high index of clinical suspicion, despite inconclusive biopsies, and being perseverant when pursuing a diagnosis where early treatment can be lifesaving.

REFERENCES