VLESPOTLIGHT

NvisionVLE® | Imaging System

CASE STUDY: VLE for Pre-Treatment Planning

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PATIENT HISTORY

This patient was originally referred for treatment with biopsy positive for High Grade Dysplasia (HGD), and underwent one round of Radiofrequency Ablation (RFA). For this procedure, the patient was in for a second EGD with the intent of assessing the first round of treatment, and to administer a second round of RFA.

PROCEDURE

ENDOSCOPIC EXAM

During the EGD, a benign looking tongue of esophageal mucosa consistent in appearance with Barrett's Esophagus (BE) was observed (C0M5) (Figure 1).

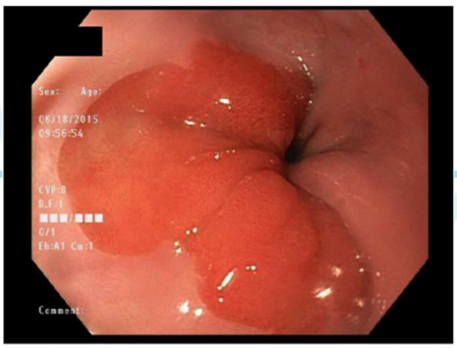

Figure 1: Benign looking tongue with the appearance of Barrett's Esophagus

VLE

Volumetric Laser Endomicroscopy

. Using the NvisionVLE Imaging System, the VLE scan identified a subsurface, focal area of glandular atypia within the BE tongue that could not be appreciated under white light endoscopy (WLE) (Figure 2)

. Largely due to the apparent depth of the abnormal area of interest, it was decided that an Endoscopic Mucosal Resection (EMR) of the area would be the preferred therapy.

. The VLE-targeted region was resected in four parts: (Figure 3)

- EMR #1 – 10:00-11:00 o'clock
- EMR #2 – 9:00 o'clock
- EMR #3 – 8:00 o'clock
- EMR #4 – 6:00 o'clock

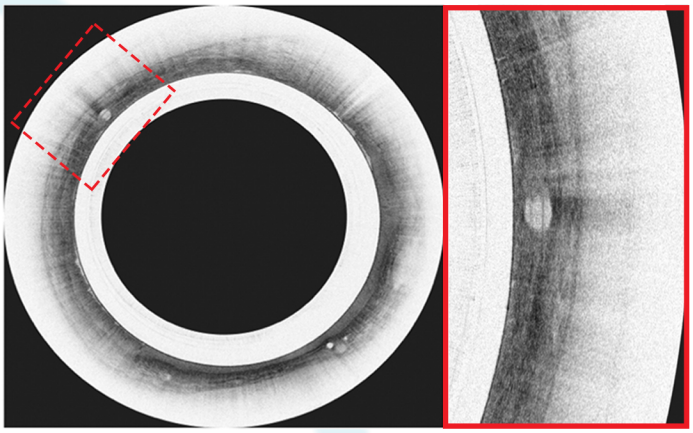

Figure 2: VLE image of subsurface, focal, glandular atypia

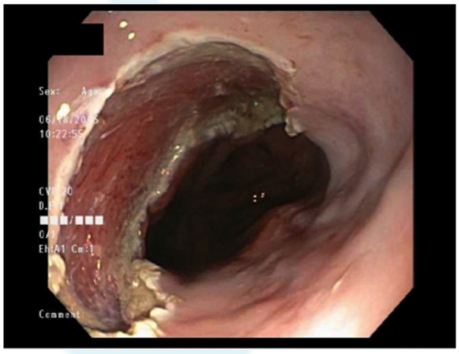

Figure 3: Endoscopic view of resected region of abnormality

RESULTS

Each of the four VLE-targeted EMR samples were sent to Pathology, and yielded the following results:

- EMR #1 at 10-11 o'clock- Adenocarcinoma, moderately differentiated, invasive into muscularis mucosa (pT1a), arising in a background of Barrett's esophagus with high grade dysplasia. The cauterized peripheral specimen edge is dysplastic. The deep resection margin is free of lesion.
- EMR #2 at 9 o'clock- Adenocarcinoma, moderately differentiated, invasive into muscularis mucosa, arising in a background of Barrett's esophagus with high grade dysplasia. The cauterized peripheral specimen edge is involved by dysplasia. The deep resection margin is free of lesion.
- EMR #3 at 8 o'clock- Barrett's esophagus. No dysplasia. Peripheral and deep specimen edges are free of intestinal metaplasia.
- EMR #4 at 6 o'clock- Barrett's esophagus, focally extending to the peripheral edge. No dysplasia. Deep margin free of intestinal metaplasia.

DISCUSSION

The intent for this procedure was to assess the previous RFA and to continue that same course of therapy. Nothing was learned during the EGD that would have altered that plan of action. The *NvisionVLE®* Imaging System, however, provided a unique perspective that was of particular clinical value. Due to the system's demonstrated ability to aid in the identification of a subsurface esophageal abnormality, as well as its ability to add a context of disease depth, Adenocarcinoma that was not otherwise observed using traditional imaging methods was localized and subsequently resected.

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