



CASE STUDY: VLE in Emerging Applications

PATIENT HISTORY

83 year old male with no history of esophageal disease. The patient was referred to Dr. Singh after a possible esophageal mass was noted as an incidental finding during a CT scan for an unrelated illness.

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PROCEDURE

ENDOSCOPIC EXAM

A small, 2cm, hiatal hernia was noted. Top of the gastric folds was noted at 39cm. A focally suspicious lesion was identified at the GEJ, 3 o'clock, and an area of esophageal erosion was seen at the GEJ, 9 o'clock. NBI was used to examine both the nodule and the irregular z-line. **No significant abnormal findings.**

VLE PROCEDURE

Volumetric Laser Endomicroscopy

- During VLE scan acquisition, atypical pit-and-crypt architecture was noted in the proximal cardia, below the top of the gastric folds.
- Upon further interrogation of the full VLE scan, there were two areas of particular suspicion in the cardia that were not appreciated during the EGD: 39.5cm at 4-6 o'clock (Figure 1 and 2), and 39.1cm at 11 o'clock (Figure 3)
- The area of erosion was also visible on VLE at the 9 o'clock position, just proximal to the GEJ. (Figure 4)
- Random, four-quadrant biopsy samples were taken from the GEJ (39cm) to 37cm. VLE-targeted biopsies were taken of the two suspicious areas in the proximal cardia.

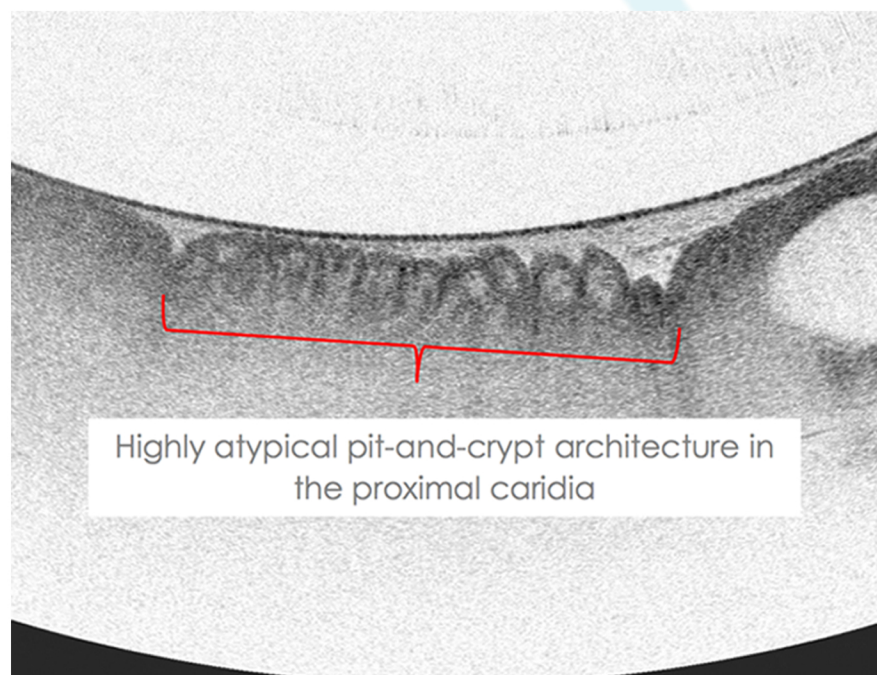


Figure 1: 39.5cm at 4-6 o'clock: positive for intramucosal carcinoma

RESULTS

Pathology from the random four-quadrant biopsies were negative. The VLE-targeted biopsies were positive for IMC (intramucosal carcinoma).

DISCUSSION

The high-resolution cross-sectional VLE imaging clearly showed areas within the cardia of highly irregular pit-and-crypt patterns that were not observed using traditional imaging methods. Seattle Protocol biopsies were negative. The NvisionVLE Imaging System provided a perspective that broadened the scope of the exam beyond what was evident endoscopically, and subsequently highlighted areas that were sampled and found to be positive for IMC. The unique imaging capability of this system was of clear and notable benefit to this patient.

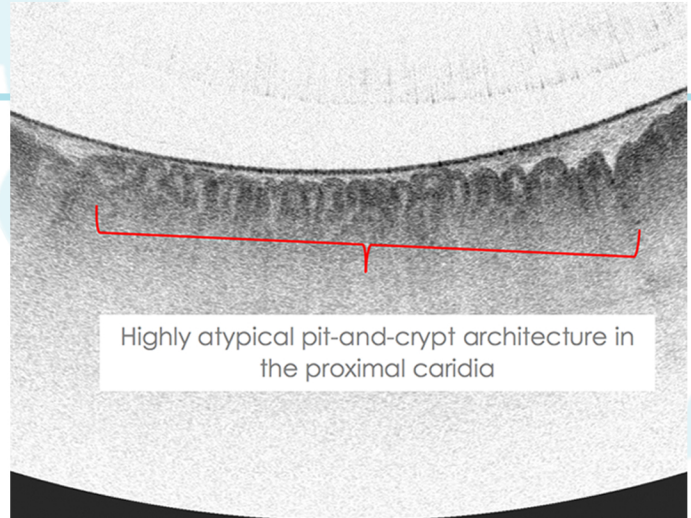


Figure 2: 39.5cm at 4-6 o'clock

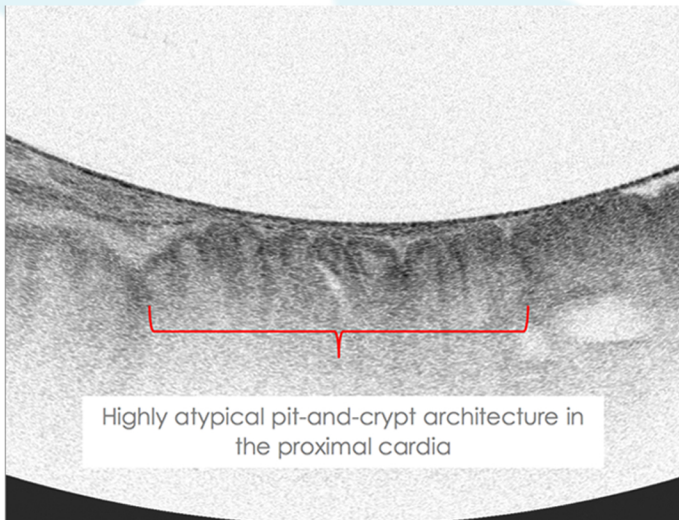


Figure 3: 39.1cm at 11 o'clock

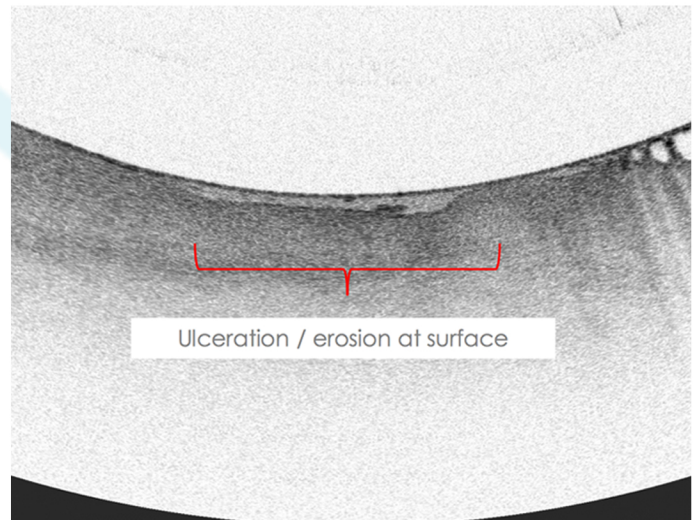


Figure 4: Just proximal to GEJ at 9 o'clock



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The NvisionVLE Imaging System is indicated for use as an imaging tool in the evaluation of human tissue microstructure, including esophageal tissue microstructure, by providing two-dimensional, cross-sectional, real-time depth visualization. The safety and effectiveness of this device for diagnostic analysis (i.e. differentiating normal versus specific abnormalities) in any tissue microstructure or specific disease has not been evaluated.

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