

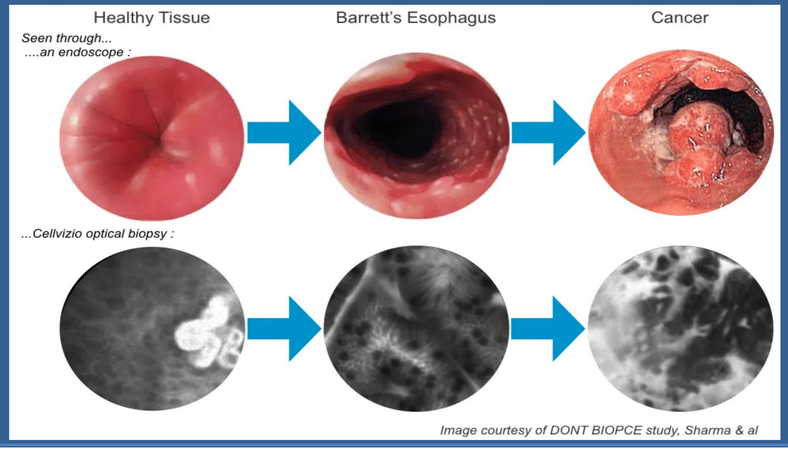
Multimodal Evaluation of Histologic Patterns of Goblet Cell Distribution in Barrett's Esophagus Shows Varying Cancer Risk

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INTRODUCTION

Hypothesis: Highly-differentiated metaplastic mucosa, reflected by homogenous high-density goblet-cell(GC) epithelium, carries a lower risk of cancer progression compared to heterogeneous Barrett's-esophagus(BE).

In-situ histologic evaluation regarding epithelial heterogeneity has historically only been possible after esophagectomy. Preliminary data from prior studies appear to demonstrate an inverse relationship between qualitative GC-ratio and risk of malignant progression of BE. Probe-based laser endomicroscopy (pCLE) allows for real-time large-area optical evaluation to guide biopsy sampling for BE surveillance. Genetic biomolecular risk-stratification is becoming an important tool to help identify high-risk BE. The two technologies can be used in conjunction to evaluate malignant progression risk in BE.



METHODS

Retrospective data review

34 patients from December 2018 - May 2024 with path confirmed BE

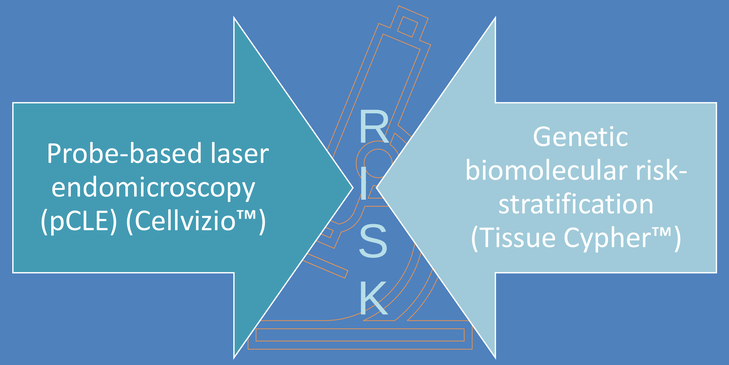
Qualitative scoring of GC density

No GC, low (1-2/HPF), moderate (2-10/HPF), or high (majority)

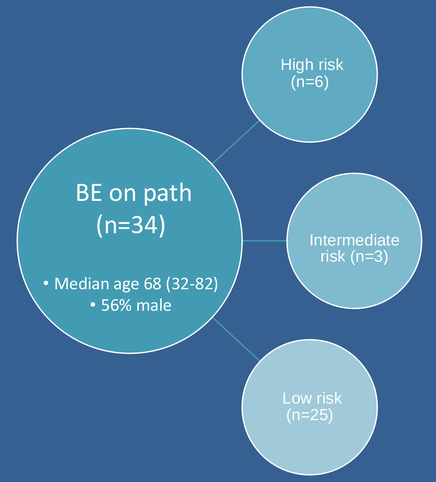
5 expert foregut endoscopic surgeons

Tissue-biomarker analysis

Risk calculation: low, intermittent, or high



RESULTS





RISK	GC DENSITY			
	No GC	Low (1-2/HPF)	Moderate (2-10/HPF)	High (majority)
HIGH	1	4	1	0
MED	0	4	1	1
LOW	7	4	3	11

CONCLUSION

BE with heterogenous columnar-lined-mucosa may have higher risk of cancer progression compared to homogenous GC epithelium. GC on pCLE should be performed with biomolecular risk-classification to improve precision