Cirrhosis, Varices, and Barrett's esophagus: WATS^{3D} -only surveillance and band ligation in the management of nondysplastic Barrett's esophagus progressing to high grade dysplasia with underlying esophageal varices

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Introduction:

- Wide-area transepithelial sampling with 3-dimensional computer-assisted analysis (WATS^{3D}) is an emerging technique used to collect esophageal samples via transepithelial brushing

- We describe the utility of WATS^{3D}-only surveillance combined with band ligation in the management and eradication of BE which progressed to high grade dysplasia (HGD) in a patient with underlying cirrhosis and EV.

Case presentation:

We present a 66-year-old male with a history of nondysplastic (ND) BE (C0-M1), small Grade 1 EV and cirrhosis who presented for BE surveillance. Due to underlying EV and associated risk of bleeding, CFB was not performed and sampling with WATS^{3D}-only was undertaken. WATS^{3D} was first performed with surveillance esophagogastroduodenoscopy (EGD) in 2015 and demonstrated ND BE. On further EGD surveillance, BE histology remained ND until early 2021 where WATS^{3D} revealed low grade dysplasia (LGD). Repeat EGD with WATS^{3D} brushing was performed 4 months later, which demonstrated progression to HGD. Interval surveillance EGD with WATS^{3D} brushing was, again, performed 4 months later and demonstrated LGD with rare foci of HGD. Of note, in both instances band ligation of the dysplastic segments was done. EGD with WATS^{3D} 3 months later revealed endoscopic clearance of BE post-banding and pathology report revealed, ND, non-goblet cell metaplasia. The final interval surveillance EGD with WATS^{3D}, 3 months later, showed complete eradication of BE with no evidence of intestinal metaplasia. *Table 1* provides a thorough chronological description from first EGD to complete resolution of BE, 8 years later.

WATS^{3D} is effective and safe in the surveillance of Barrett's Esophagus in a cirrhotic with underlying Grade 1 esophageal varices.

Date	Variceal Grade	Prague Score	Number of BE Islands	Sampling done by WATS^{3D}	Pathology Findings	Banding therapy (# of bands)
04/09/14	2	C0-M1	3	No	N/A	0
07/29/15	2	C0-M1	Scattered	No	N/A	0
12/23/15	1	C0-M1	Scattered	Yes	No dysplasia	0
06/15/16	1	C0-M1	Scattered	Yes	No dysplasia	0
02/08/17	2	C0-M1	Scattered	No	N/A	4
01/22/18	1	C0-M1	1	No	N/A	0
01/30/19	2	C0-M1	2	No	N/A	0
01/29/20	1	C0-M1	2	No	N/A	0
02/01/21	1	C0-M1	2	Yes	Low-grade dysplasia	0
06/01/21	1	C0-M1	2	Yes	High-grade dysplasia	3
10/25/21	1	C0-M1	2	Yes	Low-grade with rare foci of high-grade dysplasia	2
01/25/22	1	N/A	3	Yes	Non-goblet cell metaplasia, no dysplasia	0
04/25/22	1	N/A	0	Yes	Squamocolumnar, no dysplasia or metaplasia	0

Table – Summary of chronological EGD findings with WATS^{3D} sampling

Discussion:

- Given the lack of data regarding appropriate surveillance windows for WATS^{3D}-only BE surveillance, we performed sampling at shorter intervals than what would otherwise be recommended, to confirm the lack of dysplasia.

- This case presents a unique approach to WATS^{3D}-only surveillance combined with band ligation therapy of dysplasia in the management of BE in a cirrhotic patient with underlying EV.

- Additionally, this case is unique in clearly documenting progression of a short segment of ND BE to HGD with WATS^{3D} sampling alone.

Disclosures

No disclosures to report

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