5.13. Optimizing the technique for circumferential ablation of Barrett esophagus containing high-grade dysplasia using the HALO^{360} System

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Background: The optimal technique for applying circumferential ablation (CA) to Barrett esophagus (BE) containing high-grade dysplasia (HGD) using the HALO^{360} System (BÂRRX Medical, Sunnyvale, CA, USA) has evolved at our center over the past 2 years with increased case experience and availability of clinical trial results.

Methods: We compared the efficacy of 2 CA techniques in 2 clinical trials (AMC-I and AMC-II) for BE-HGD. All CA sessions were performed with the HALO^{360} ablation catheter (40 W/cm^2, 12 J/cm^2). Patients received esomeprazole 40 mg BID.

AMC-I: 1% acetic acid, ablate proximal to distal, reposition using shaft cm markings. After first pass, reposition electrode, repeat ablation.

AMC-II: 1% acetylcysteine, ablate proximal to distal, reposition using visual landmarks. After first pass, remove and clean electrode, thoroughly suction coagulum from ablation zone, reintroduce catheter, repeat ablation.

Endpoints: procedure time, sedation, post-ablation symptom scores, and regression of BE 10 wks post-ablation (% surface area regression, reduction "C" and "M", Prague Criteria).

Results:

	AMC-I	AMC-II	p-value
N	11	12	
Time (min)	27 (25-34)	37 (33-51)	0.009
Midazolam (mg)	10 (5-10)	9 (5-10)	NS
Fentanyl (mcg)	100 (25-150)	100 (100-100)	NS
"C" Baseline (cm)	4 (0-5)	6 (3-7)	
"C" 10 wks (cm)	0 (0-0)	0 (0-0)	NS
"M" Baseline (cm)	5 (4-7)	7 (5-8)	
"M" 10 wks (cm)	5 (3-6)	0 (0-0)	<0.001
% C regression	75% (0-100)	100 (89-100)	NS
% M regression	14% (0-44)	100 (91-100)	<0.001
% surface area regression	90 (60-99)	99% (60-100)	0.035

Values are median (IQR)

Conclusions: There is a significant difference between the efficacy outcomes between the techniques. While AMC-II technique requires more procedure time, it results in superior BE regression results for M category (Prague) and surface area regression. It appears that cleaning the electrode and ablation zone after the first pass provides more assured eradication. A more assured regression after primary CA allows more optimal focal ablation of any residual BE and achievement of complete eradication for this patient population.