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# Role of Hybrid Argon-Plasma Coagulation (Hybrid APC) in the Management of Barrett's Esophagus: A Case Series Report

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## BACKGROUND

- Barrett's esophagus (BE) is defined as metaplasia of the esophageal epithelium resulting in the replacement of normal squamous epithelium by columnar epithelium.
- It is associated with gastroesophageal reflux disease (GERD).
- Patients with BE are at increased risk of developing esophageal adenocarcinoma and require close monitoring.
- Management of BE has changed remarkably with the introduction of endoscopic thermal ablative therapies that include radiofrequency ablation (RFA) and argon-plasma coagulation (APC).
- Both therapies are associated with risk of stricture formation (5–10%) and APC increases the risk of buried metaplastic glands under the neosquamous epithelium.
- To overcome these detrimental effects of both therapies, a novel hybrid ablation method that combines APC and submucosal saline injection called Hybrid APC has been developed that has shown to decrease the rate of these complications by creating a submucosal fluid cushion prior to ablation.
- We present two cases where employment of Hybrid APC resulted in the eradication of BE following endoscopic mucosal resection (EMR) and multiple RFA therapies.

## CASE 1

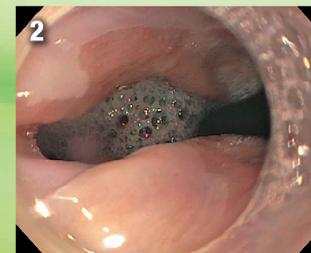
- A 62 year old male diagnosed with BE, long segment with HGD and intramucosal adenocarcinoma status post EMR four years back was closely monitored with surveillance EGD and subsequently underwent EMR three times, and RFA eight times with disease persistence.
- Patient was deemed to be a high risk candidate for surgery.
- Hybrid APC was performed resulting in significant macroscopic and histologic remission following therapy. (Image 2)
- Patient continues to be followed up closely with no disease recurrence



### CASE 1

**Image 1:** EGD showing persistent BE prior to Hybrid APC

**Image 2:** EGD shows Irregular Z line following Hybrid APC



## CASE 2

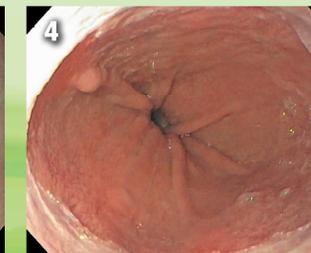
- A 62 year old male diagnosed with BE, long segment with HGD and intramucosal adenocarcinoma status post EMR four years back was closely monitored with surveillance EGD and subsequently underwent EMR three times, and RFA eight times with disease persistence.
- Patient was deemed to be a high risk candidate for surgery.
- Hybrid APC was performed resulting in significant macroscopic and histologic remission following therapy. (Image 4)
- Patient continues to be followed up closely with no disease recurrence



### CASE 2

**Image 3:** EGD showing salmon colored mucosa extending up from the top of the gastric folds

**Image 4:** EGD Smooth, round Z-line



## DISCUSSION

- Hybrid APC is a new novel treatment modality shown to be effective and safe in the management of BE.
- Manner et.al showed macroscopically complete remission (CR) in 46 of the 48 patients and histologically CR out of 46 patients from BE.
- Further multicenter prospective trials are required to study this promising new technique compared to other treatment techniques.

## REFERENCES

1. Manner, H., May, A., Kouti, I. et al. Surg Endosc (2016) 30: 1371. <https://doi.org/10.1007/s00464-015-4741-5>
2. S Kashin et al. Gastrointestinal Endoscopy, 10.1016/j.gie.2016.03.708