MEDICAL INSIGHTS ePaper

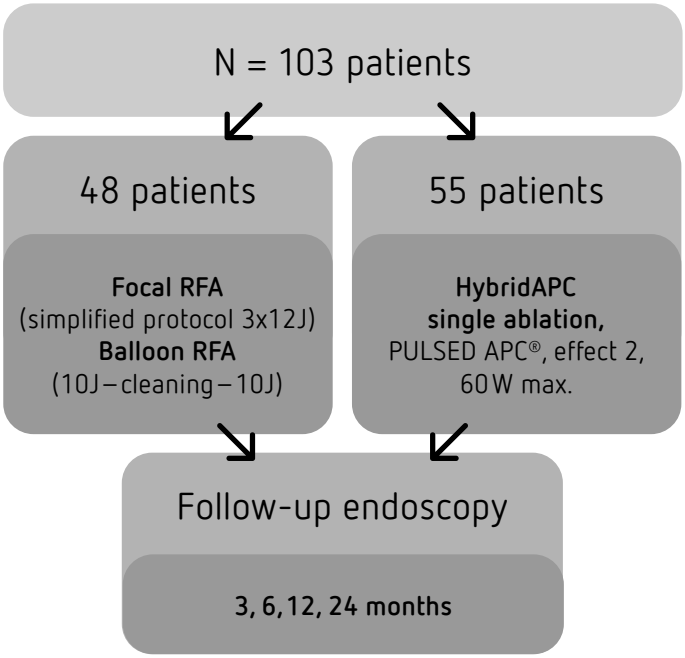
HybridAPC for ablation of Barrett's esophagus after resection of neoplastic lesions

Randomized trial comparing HybridAPC to radiofrequency ablation

Background

On UEG week virtual 2020, data from a prospective, single-center, randomized trial was presented by Dr. Mate Knabe, University Hospital Frankfurt on October 11th in the Advanced endoscopic therapy session for the upper GI (Presentation OP023). The title of this publication was HYBRID ARGON-PLASMA-COAGULATION VERSUS RADIOFREQUENCY ABLATION IN BARRETT´S ESOPHAGUS AFTER ENDOSCOPIC RESECTION OF NEOPLASTIC LESIONS. A RANDOMIZED TRIAL AT A TERTIARY CENTER.

Barrett's esophagus describes an intestinal metaplasia of the esophageal squamous epithelium. A neoplasia in Barrett's esophagus is resected endoscopically, if possible, followed by ablation of the remaining metaplastic Barrett's mucosa in another session. Manner et al. showed in the APE trial that without an ablation, around one third of these patients will present with a recurrent neoplastic lesion[1].



Challenges and goals

After resection of neoplastic tissue with EMR or ESD, the remaining Barrett's mucosa is ablated irrespective of the presence of dysplasia. Complications such as esophageal strictures, pain or incomplete eradication can occur.

Different technologies exist for ablation of Barrett's mucosa, including HybridAPC. To date, only limited data comparing the technologies are available. The BRIDE trial in 2019 compared conventional APC to radiofrequency ablation and is of limited value for comparison with the present results[2].

Method

Knabe et al. conducted a prospective, randomized trial including 103 consecutive patients with Barrett's esophagus who underwent ablation two months after EMR of a neoplastic lesion. All patients with at least 1 cm longitudinal extent of Barrett's mucosa were randomly assigned to either radiofrequency ablation or ablation with HybridAPC. For radiofrequency ablation, a simplified protocol was used (see image). Patients in the HybridAPC group were treated with a single ablation per session with a power limitation of 60 W. In contrast to previous trials, no scraping with the endoscope cap and second ablation were performed.

A follow-up endoscopic examination was performed at 3, 6, 12 and 24 months. The ablation was deemed successful if on a follow-up examination 6 months after ablation, a normal neo Z-line was visible and eradication was proven in biopsies. Furthermore, stricture rates, post-interventional pain and pain duration were recorded.

Results and key findings

The eradication rate proved non-significant difference on a high level for both technologies. A trend towards less post-interventional pain and a shorter duration with HybridAPC was shown. The stricture rate of 2 % at the 6-month follow-up examination was significantly lower for patients treated with HybridAPC compared to the RFA group

	HybridAPC group (n = 55)	RFA group (n = 48)
Post-interventional pain level (as per NAS)	2.1 / 10	4.1 / 10
Pain duration in days	3.3	5.7
Complete eradication at 6-month follow-up in %	91	87
Stricture rate in %	2	13

Implications and recommendations

Due to the substantial difference in the stricture rate, Knabe and colleagues decided to stop enrolling after 103 patients for this study. The preliminary results to date have not yet been published.

Products

The present trial was conducted using the HybridAPC probes. A pulsed mode (VIO® 300 D & APC 2, PULSED APC®, Effect 2) with a power limitation of 60 W was used. ERBEJET® 2 was used with an effect setting of 40 – 50.

References

1. *Manner H, Rabenstein T, Pech O, Braun K, May A, Pohl J, Behrens A, Vieth M, Ell C. Ablation of residual Barrett's epithelium after endoscopic resection: a randomized long-term follow-up study of argon plasma coagulation vs. surveillance (APE study). Endoscopy. 2014 Jan;46(1):6-12. doi: 10.1055/s-0033-1358813. Epub 2013 Dec 18. PMID: 24353120.*

2. *Peerally MF, Bhandari P, Ragunath K, Barr H, Stokes C, Haidry R, Lovat L, Smart H, Harrison R, Smith K, Morris T, de Caestecker JS. Radiofrequency ablation compared with argon plasma coagulation after endoscopic resection of high-grade dysplasia or stage T1 adenocarcinoma in Barrett's esophagus: a randomized pilot study (BRIDE). Gastrointest Endosc. 2019 Apr;89(4):680-689. doi: 10.1016/j.gie.2018.07.031. Epub 2018 Aug 1. PMID: 30076843.*