
5.7. Radiofrequency ablation for eradication of Barrett esophagus containing high-grade dysplasia or early cancer: A prospective series of 73 patients

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Objective: Radiofrequency ablation (RFA) is a novel endoscopic ablation technique for eradication of Barrett esophagus (BE) with and without dysplasia.

Aim: To report the combined results of published and ongoing studies on RFA of BE containing high-grade dysplasia (HGD) and/or early cancer (EC), with baseline endoscopic resection (ER) in case of visible lesions.

Methods: We included all patients treated with RFA at our centre starting July 2005, under IRB approved protocols. Enrolled patients had BE ≤ 12 cm with HGD/EC. Non-flat lesions were removed with ER prior to RFA. Exclusion criteria: cancer $>T1sm1$ or N+ disease on EUS. Primary circumferential RFA was performed using a balloon-based catheter, secondary focal RFA was performed with an endoscope-based catheter (BARRX Medical). Primary RFA was performed 6 weeks after ER, followed by secondary RFA every 2 months until clearance of BE was confirmed endoscopically by inspection with narrow-band imaging, and histologically by biopsies. Thereafter, follow-up endoscopy and biopsy was performed at 2, 6, and 12 months and then annually.

Results: 73 patients were included (59M, mean age 65yrs, median BE 5cm). 57/73 patients (78%) underwent ER (20 en-bloc, 37 piecemeal) prior to RFA revealing EC (n=32), HGD (n=20), LGD (n=4) or non-dysplastic BE (n=1). The worst histological grade of residual BE prior to RFA was HGD (n=42), LGD (n=24), or non-dysplastic (n=7). By November 2008, 11 patients are still under treatment, while 62 patients have completed treatment (results of 44 patients have been published). Complete histological eradication of dysplasia and intestinal metaplasia (IM) was achieved in 59/62 patients (95%) after a median of 1 (IQR 1-1) circumferential RFA and 2 (IQR 1-2) focal RFA sessions, and additional ER in 5 patients. There were 3 protocol failures: 2 patients had persisting dysplasia (5%), in 1 patient (2%) treatment was ceased due to poor mucosal healing after RFA. Complications following RFA: asymptomatic non-transmural laceration at an ER-scar after circumferential RFA (n=7), dysphagia (n=5), melena (n=1). No lacerations or dysphagia occurred in patients without prior ER. Seventeen months (IQR 14-33) after the last treatment, no dysplasia had recurred. In one patient a 1mm BE island was identified at 12 months follow-up. Eight patients had focal IM detected immediately distal to the neo-Z-line at a single FU. Of 2515 biopsies obtained from neosquamous epithelium during any follow-up, 2 showed buried IM (0.08%).

Conclusion: RFA of BE-HGD/EC with or without prior ER of visible lesions is effective in achieving complete eradication of dysplasia and IM (95%) without serious adverse events.