Long-term follow-up shows multipolar electrocoagulation ablation effective for Barrett's esophagus

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A new study reports that multipolar electrocoagulation in combination with acid suppression is a safe and effective method to ablate nondysplastic Barrett's esophagus over the long term. No adenocarcinoma (cancer) or high-grade dysplasia of the esophagus developed in any of the study patients. This is the largest published series and longest follow-up of patients with nondysplastic Barrett's esophagus who underwent ablation therapy with multipolar electrocoagulation. The study appears in the April issue of *GIE: Gastrointestinal Endoscopy*, the monthly peer-reviewed scientific journal of the American Society for Gastrointestinal Endoscopy (ASGE).

Barrett's esophagus is a condition where the lining of the esophagus changes because of chronic inflammation, generally due to gastroesophageal reflux disease (GERD). In the setting of chronic acid exposure, the cellular structure of the lower esophageal lining changes to look more like the cells lining the intestine. Barrett's esophagus itself has no specific symptoms, but this change can increase the risk of esophageal adenocarcinoma (a type of esophageal cancer). Barrett's esophagus can be readily detected during an upper endoscopy but must be confirmed by biopsies.

The usual approach is to properly diagnose Barrett's esophagus, use medical therapy to suppress acid, and follow the lining cells of the esophagus over time to detect changes before cancer has a chance to

develop. If biopsies obtained during endoscopy detect dysplasia (a precancerous change in tissue), then a physician will recommend either close endoscopic surveillance (endoscopies at regular intervals with biopsies), endoscopic therapy or surgery. Endoscopic therapy may include removal of an area of Barrett's esophagus with dysplasia using endoscopic mucosal resection, which is a technique that allows removal of abnormal tissue in the esophagus without damaging the rest of the esophagus. Endoscopic ablation is a treatment which removes unwanted tissue and allows a healthy tissue lining to grow back. Endoscopic ablation of Barrett's tissue can be done using thermal based therapy such as radiofrequency ablation, multipolar electrocoagulation, or argon plasma coagulation. Another modality to destroy Barrett's cells is cryotherapy, which involves freezing of cells.

"Evolving technology has demonstrated the feasibility of reversing Barrett's esophagus by using a variety of ablative techniques combined with long-term acid suppression. These approaches have been best studied in patients with Barrett's esophagus who have low- or high-grade dysplasia and are therefore known to be at increased risk of progression to adenocarcinoma. A few reports have also described ablation in patients without dysplasia," said study lead author Harmony Allison, MD, Tufts Medical Center Division of Gastroenterology. "For more than 15 years, our group has offered ablation to patients with nondysplastic Barrett's esophagus who we followed prospectively. In patients that we followed for at least 10 years, we found that ablation of nondysplastic Barrett's esophagus with multipolar electrocoagulation ablation therapy in combination with acid suppression is a safe and effective method over the long term."

Methods

The prospective cohort study conducted at the Policlinica Metropolitana, a tertiary care clinic in Caracas, Venezuela, included 139 patients who

had completed at least 10 years of follow-up for nondysplastic Barrett's esophagus and who had histologic evidence of intestinal metaplasia (abnormal tissue). The majority of the patients, (75 percent), were men and the mean age of the patients studied was 53 years. The study objective was to provide longer follow-up and determine the safety and efficacy of multipolar ablation for nondysplastic Barrett's esophagus using the outcome measurements of mortality, incidence of recurrent Barrett's esophagus, incidence of adenocarcinoma in ablated Barrett's esophagus, and morbidity associated with multipolar electrocoagulation. All patients were placed on high dose proton pump inhibitors (acid suppressors) twice daily starting one to two weeks before the ablation, during the entire treatment and for one year after completion of ablation therapy. After one year, patients were maintained on once daily proton pump inhibitors.

Patients underwent multipolar electrocoagulation ablation therapy to areas of Barrett's esophagus identified with magnification chromoendoscopy, which is performed by spraying specialized nonpermanent stains or dyes (in this case, acetic acid) on the inner lining of the esophagus to highlight the Barrett's tissue. After complete ablation, patients were followed on an annual basis with magnification chromoendoscopy. At annual visits, biopsy specimens were taken in areas identified at baseline as Barrett's esophagus. Targeted biopsy specimens were taken in areas of recurrent Barrett's esophagus identified by using magnification chromoendoscopy.

Results

Researchers concluded that long-term follow-up of ablation of Barrett's esophagus with multipolar electrocoagulation ablation therapy is a safe, effective method to ablate Barrett's esophagus over the long term. The number of sessions required to achieve complete Barrett's eradication ranged from one to five. Ninety-five percent of patients had no

recurrence of Barrett's esophagus after initial ablation treatment was completed. Complications developed in less than five percent of patients, and all of the complications were minor. Recurrent Barrett's esophagus occurred in less than five percent of patients. No adenocarcinoma (cancer) or high-grade dysplasia of the esophagus developed in any of the patients. The researchers added that additional studies are needed to confirm their observations and ideally compare an ablative approach with standard surveillance.

In an accompanying editorial by Neil Gupta, MD, MPH, Division of Gastroenterology and Hepatology, Kansas City Veterans Affairs Medical Center, University of Kansas Medical Center Kansas City, Kansas; Irving Waxman, MD, Department of Medicine, Section of Gastroenterology, Center for, Endoscopic Research and Therapeutics, University of Chicago Medical Center, Chicago, Illinois; and Prateek Sharma, MD, Division of Gastroenterology and Hepatology, Kansas City Veterans Affairs Medical Center, University of Kansas Medical Center, Kansas City, Kansas, they state:

"Finally, as more endoscopic therapies become available, randomized, controlled trials will need to address which therapy (or combination of therapies) has the best effectiveness and safety profile in patients with HGD (high grade dysplasia) and EAC (early esophageal adenocarcinoma). Should we resect or burn? Burn or freeze? Or maybe we should do a combination of the three?"

Provided by American Society for Gastrointestinal Endoscopy

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