

Study: Radiofrequency Ablation Can Reverse Barrett's Esophagus

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NEW YORK, N.Y.—Patients who have gastroesophageal reflux disease (GERD) for a prolonged period have an increased risk of developing Barrett's esophagus, a pre-cancerous condition where the tissue lining the esophagus becomes damaged by stomach acid and transformed into something like the inside of the stomach. New research finds that radiofrequency ablation—an endoscopic procedure involving targeted thermal energy—was very successful at restoring the esophagus and reducing risk for cancer.

The study was conducted at 19 centers nationally, including NewYork-Presbyterian Hospital/Columbia University Medical Center. Results are published in the May 28 New England Journal of Medicine along with an accompanying editorial, which hails it as a "landmark study in the field."

"The current standard of care for Barrett's esophagus has been watchful waiting or surveillance—delaying surgery until the first sign of cancer. This study offers powerful evidence that treatment using radiofrequency ablation can help prevent esophageal cancer by completely reversing overall Barrett's esophagus and its more severe tissue changes, or dysplasias," said study senior author Dr. Charles Lightdale, a gastroenterologist at NewYork-Presbyterian Hospital/Columbia University Medical Center and professor of clinical medicine at Columbia University College of Physicians and Surgeons.

While it is still rare for Barrett's esophagus to develop into esophageal cancer, incidence of the cancer has increased fivefold over the last 30 years. Treating esophageal cancer involves major surgery to remove a section of the organ. Five-year survival is less than 15 percent.

In the study, 127 patients with Barrett's esophagus and dysplasia were randomized to receive either radiofrequency ablation (RFA) or a control group which received a non-therapeutic endoscopic surveillance procedure and followed over 12 months. Overall, only 1 percent of those receiving RFA developed cancer, compared with 9 percent in the control group, and 77.4 percent of RFA patients had complete eradication of the disease, compared with 2.3 percent in the control group.

For patients with small amounts of tissue change (dysplasia), a complete eradication of dysplasia occurred in 90.5 percent of those in the ablation group, compared with 22.7 percent in the control group. For patients with more advanced, "high grade" dysplasia, complete eradication occurred in 81.0 percent in the ablation group, compared with 19 percent in the control group.

Currently many patients with high-grade dysplasia undergo an esophagectomy, a major surgery that removes a section of the esophagus. "This study shows that minimally invasive RFA should be the standard of care for these patients," said Dr. Lightdale, who has offered the procedure to patients at NewYork-Presbyterian/Columbia over the last five years.

The study found side effects of RFA were mild, and included increased risk for chest pain and a narrowing (stricture) of the esophagus. There was one reported case of upper gastrointestinal hemorrhage.

"While our study didn't look at other interventions, it's notable that the side effects associated with radiofrequency ablation were significantly less than those reported in studies of photodynamic therapy, a laser-based approach," said Dr. Lightdale.

RFA for Barrett's esophagus is a half-hour outpatient procedure performed under mild sedation. The energy is

highly controlled, and can be limited to the thin layer of the esophagus, preventing injury to healthy tissue. RFA technology is widely used to treat tumors in the liver, kidney and bones; used to restore normal heart rhythms; and for varicose veins.

Barrett's esophagus affects about 1 percent of adults in the United States. Men develop Barrett's esophagus twice as often as women. Approximately 10 percent of patients with chronic reflux have the condition. Half of Barrett's patients don't have heartburn.

"Advanced Barrett's esophagus diminishes the painful symptoms of acid reflux making its diagnosis difficult in many patients. Therefore, it's important for anyone who has had prolonged GERD to be screened," said Dr. Lightdale.

Now that radiofrequency ablation has been shown to be effective in patients with dysplastic Barrett's esophagus, the next step is to see if it works for patients with less severe disease.

The study's lead author is Dr. Nicholas J. Shaheen of the University of North Carolina at Chapel Hill. The research was sponsored by BARRX Medical Inc., maker of the radiofrequency ablation equipment used in the study.

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