

## Radiofrequency Energy Delivery to the Anal Canal for the Treatment of Fecal Incontinence.

Takahashi T, Garcia-Osogobio S, Valdovinos MA, Mass W, Jimenez R, Jauregui AL, Bobadilla J, Belmonte C, Edelstein PS, Utley DS. Radiofrequency Energy Delivery to the Anal Canal for the Treatment of Fecal Incontinence. *Dis Colon Rectum* 2002;45:915-922.

**PURPOSE:** In this prospective study we investigated the feasibility, safety, and efficacy of radio-frequency energy delivery deep to the mucosa of the anal canal for the treatment of fecal incontinence. **METHODS:** We studied ten patients with fecal incontinence of varying causes. All patients underwent anoscopy, anorectal manometry, endorectal ultrasound, and pudendal nerve terminal motor latency testing at baseline and six months. The Cleveland Clinic Florida scale for fecal incontinence (Wexner, 0–20), fecal incontinence-related quality of life score, and Short Form 36 were administered at baseline, 1, 2, 3, 6, and 12 months. Using conscious sedation and local anesthesia, we delivered temperature-controlled radio-frequency energy via an anoscopic device with multiple needle electrodes to create thermal lesions deep to the mucosa of the anal canal.

**RESULTS:** Ten females (age, 55.9 + 9.2 years; range, 44–74) were enrolled and treated. Median discomfort by visual analog scale (0–10) was 3.8 during and 0.9 two hours after the procedure. Bleeding occurred in four patients (14–21 days after procedure), spontaneous resolution (n = 3) and anoscopic suture ligation (n = 1). At 12 months, the median Wexner score improved from 13.5 to 5 (P < 0.001), with 80 percent of patients considered responders. All parameters in the fecal incontinence-related quality of life were improved (lifestyle (from 2.3 to 3.4), coping (from 1.4 to 2.7), depression (from 2.2 to 3.5), and embarrassment (from 1.3 to 2.8); P < 0.05 for all parameters). Protective pad use was eliminated in five of the seven baseline users. At six months, there was a significant reduction in both initial and maximum tolerable rectal distention volumes. Anoscopy was normal at six months.

**CONCLUSION:** Radio-frequency energy delivery to the anal canal for treatment of fecal incontinence is a new modality that, in this study group, safely improved Wexner and fecal incontinence-related quality of life scores, eliminated protective pad use in most patients, and improved patient quality of life.