

Radiofrequency Ablation for the Treatment of APC-Refractory Gastric Antral Vascular Ectasia- Case Series

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Abstract

Background: Gastric Antral Vascular Ectasia (GAVE) is a sporadic cause of gastrointestinal bleeding and subsequent anemia. Endoscopic Argon Plasma Coagulation (APC) is an accepted therapy for GAVE, after which many patients continue bleeding and remain transfusion dependent. Radiofrequency Ablation (RFA) may provide an alternative therapeutic option for GAVE.

Objective: Presenting the efficacy and safety of RFA treatment in patients with GAVE in transfusion-dependent patients after APC and as a first-line treatment for an extensive disease.

Case Reports: We report five cases of patients presented with anemia attributed to GAVE, that were treated with RFA. Hemoglobin levels and endoscopic outcomes were evaluated.

Conclusion: RFA is an effective and safe treatment either as a first line option in extensive GAVE or as a second line in patients with refractory GAVE after attempted APC.

Keywords: Argon Plasma Coagulation; Gastric Antral Vascular Ectasia; Gastrointestinal Bleeding; Radiofrequency Ablation

Introduction

Gastric antral vascular ectasia (GAVE) is an infrequent cause of chronic gastrointestinal bleeding or iron deficiency anemia (IDA), and accounts for up to 4% of all non-variceal upper gastrointestinal bleedings. It was first described in 1953 in a patient with chronic IDA. Treatment comprises of endoscopic interventions (e.g. Argon plasma coagulation (APC) and surgical procedures (e.g. antrectomy and Billroth I anastomosis) to manage lesions, in addition to symptomatic therapy with iron supplementation or blood transfusions, depending on the severity of the anemia [1-3].

Radiofrequency Ablation (RFA) is an endoscopic technique in which the affected tissue or the dilated blood vessels are ablated by heat. RFA was first used as a treatment for GAVE in 2008 in a limited cohort. The study evaluated 21 patients with GAVE who remained transfusion-dependent despite prior treatment with APC. Results six months after RFA, showed that 18 patients (86%) were transfusion-independent and their mean hemoglobin (Hb) level increased from 7.8 g/dL to 10.2 g/dL [4]. Other small case series have also reported similar outcomes for treatment of refractory GAVE with RFA [5,6].

In this article, we present five cases of RFA treatment for extensive or post APC refractory GAVE.

Case Presentation

Case 1

GAVE in a 76-year-old man with end-stage renal disease and IDA. During two years he underwent three APC sessions, nevertheless he continued to require blood transfusions. Therefore RFA was considered. The vascular antral ectasias were treated with a BARRX 90 focal 20 mm x 13 mm over the scope catheter. 62 ablations were installed, 12 Joule each, for the whole antrum circumference. In one year follow up the Hb values remained stable and good endoscopic results were obtained (Figure 1A and Figure 2-Case 1).

Case 2

GAVE in a 49-year-old woman who underwent upper endoscopy for the investigation of IDA. On exam, antral watermelon stomach was described. Due to the wide extension of the disease we decided on RFA as the first treatment modality. A Through the Scope (TTS) 15 X 7.5 mm. catheter was used to apply 110 ablations, 12 Joule each. The Hb levels were raised and remained stable thereafter (Figure 2-Case 2), and the endoscopic findings improved (Figure 1B).

Case 3

GAVE in a 38-year-old female with autoimmune hepatitis who presented with IDA. On upper endoscopy GAVE was diagnosed, and APC treatment was applied. Both the Hb levels and an endoscopic picture in the following months indicated no improvement; hence, RFA was tailored, using 60 ablations of BARRX 90 focal 20 mm x 13 mm catheter. Figure 2-Case 3 and figure 1C exhibit satisfactory results in the following months.

Case 4

GAVE in a 30-year-old male presented with IDA. Watermelon stomach with wide involvement of vascular ectasias was diagnosed in upper endoscopy, so APC trial was skipped and RFA treatment initiated. According to the Hb levels (Figure 2-Case 4) the patient went through two sessions of RFA: the first with BARRX RFA ultra-long 40 mm x 13 mm focal catheter, and the second treatment, one year after, with TTS 15.7 mm x 7.5 mm catheter. The endoscopic findings improved thereafter (Figure 1D).

Case 5

GAVE in an 81-year-old female who was introduced to our department with IDA. On upper endoscopy antral GAVE was prominent. Although initial treatment with APC was applied, it was clear that further treatment session would be necessary. She was called a few months later for planned RFA. 120 ablations, where applied by a 15.7mmx7.5mm TTS catheter. Good endoscopic results were achieved as shown in figure 1E. An upward Hb Curve supported treatment success (Figure 2-Case 5).

No RFA-related complications were noted in all patients, with good patient tolerance in all therapy sessions. All patients who needed blood transfusions before RFA raised their Hb levels and were blood-transfusion free to this date.

Discussion and Conclusion

GI bleeding and IDA is a significant feature of GAVE. RFA is a safe, effective alternative to APC, not only as a salvage therapy for APC-refractory disease, but also as a first line treatment for a wide extent disease. The cases presented demonstrate well tolerated procedure with good clinical results. Post RFA endoscopies showed improvement in antral watermelon pattern with tapering of the thickness of vascular streaks. This improvement was supported by prevention of further Hb decline in all five GAVE treated patients.

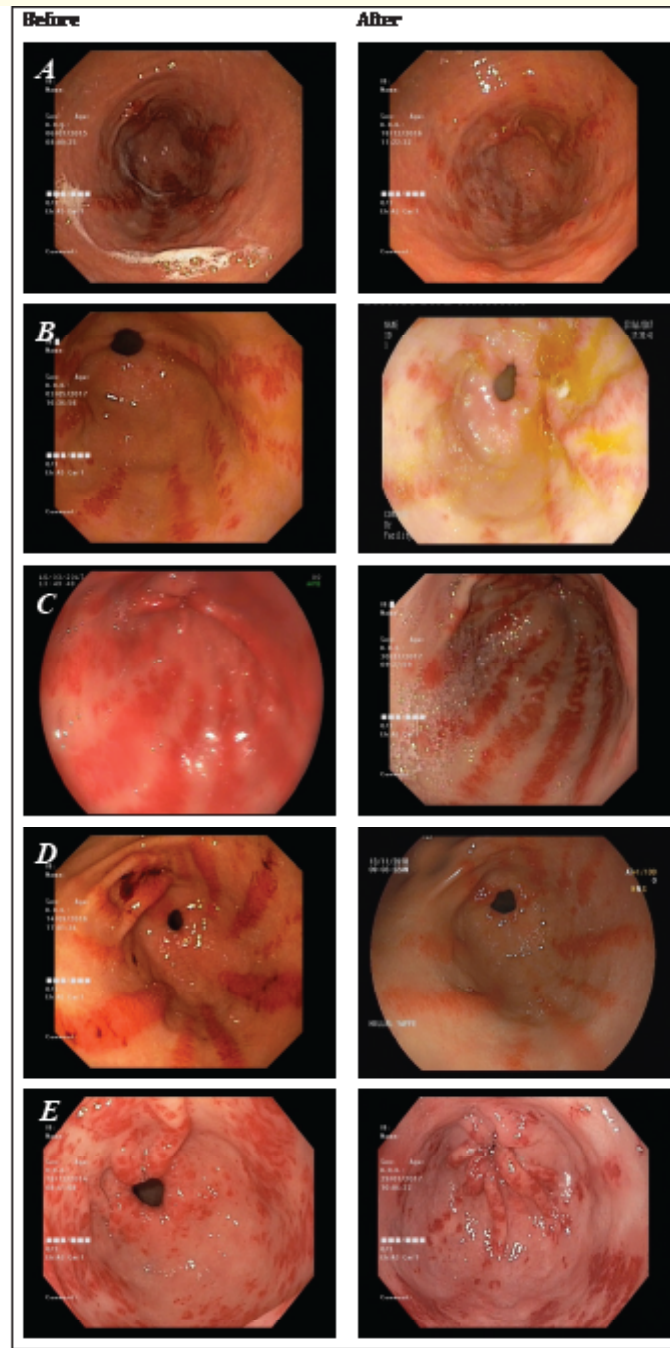


Figure 1A-1E: Endoscopic images on presentation before RFA treatment - On the left. Post RFA treatment - on the right. Thinning of GAVE streaks is noticeable on the right, indicating improved results.

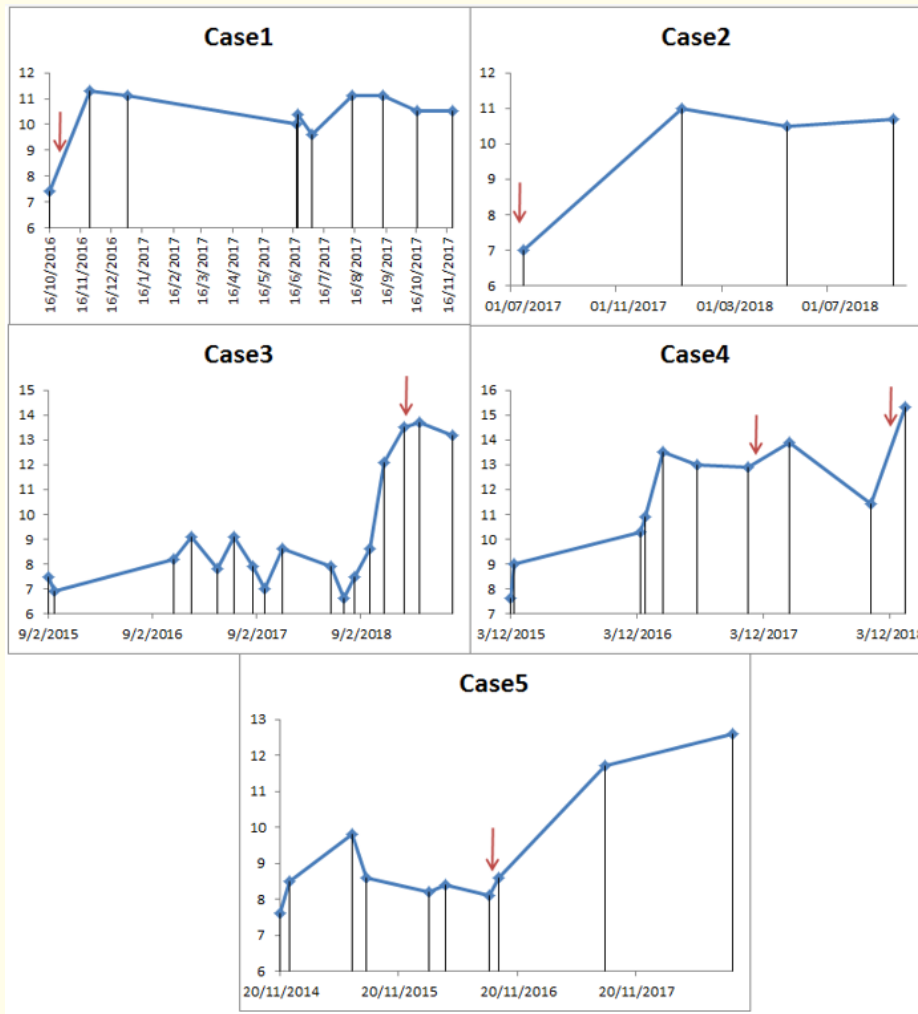


Figure 2: Patients’ Hemoglobin levels. Red arrows point on time of RFA treatment.

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