

## Introduction

Chronic radiation proctitis (CRP) is a common complication after radiotherapy occurring in 5-20% of patients treated for pelvic malignant tumors.<sup>1-4</sup> Acute radiation proctitis can present within 6 weeks of starting therapy with diarrhea, tenesmus, and bleeding, or re-emerge chronically, months or years after radiation, usually associated with frequent rectal bleeding leading to chronic iron deficiency anemia which may be severe enough to require blood transfusions.<sup>1-3</sup> Injury to the rectal wall results in endothelial dysfunction, microvascular injury with intimal fibrosis and fibrin thrombi of small arteries and arterioles similar to obliterative endarteritis leading to tissue ischemia and development of neurovascular mucosal lesions. These lesions can bleed chronically in different amounts ranging from sporadic spotting to episodes of severe rectal bleeding requiring transfusion.<sup>2,3,5</sup> Treatment of CRP varies from medical, endoscopic, or surgical management with no clearly defined guidelines, presenting an ongoing challenge for physicians.

## Case Report

Patient is a 72 year old male who presents with weakness and dizziness when standing. He first noticed it when taking groceries into his house over a month ago, and he continues to notice when he works in yard, and every time he's carrying things into his house. This first occurred roughly a month ago and has gotten progressively worse until now he's getting dizzy every time he stands. Stated that the reason he came into the ER today was new SOB and chest discomfort. The chest discomfort on questioning was more if an air hunger and breathing pain VS a crushing substernal chest pain. Now he has to rest after every trip to the car to bring groceries into the house. Resting relieved his symptoms doing any moderate activity makes it worse. He also stated that he's been having the sudden and frequent urge to have a bowel movement but, when he goes nothing will come out. The patient refused blood transfusion due to religious implications, therefore he was given 40,000 units of Erythropoietin (EPO) along with 2 liters of normal saline which increased his BP to 105/54.

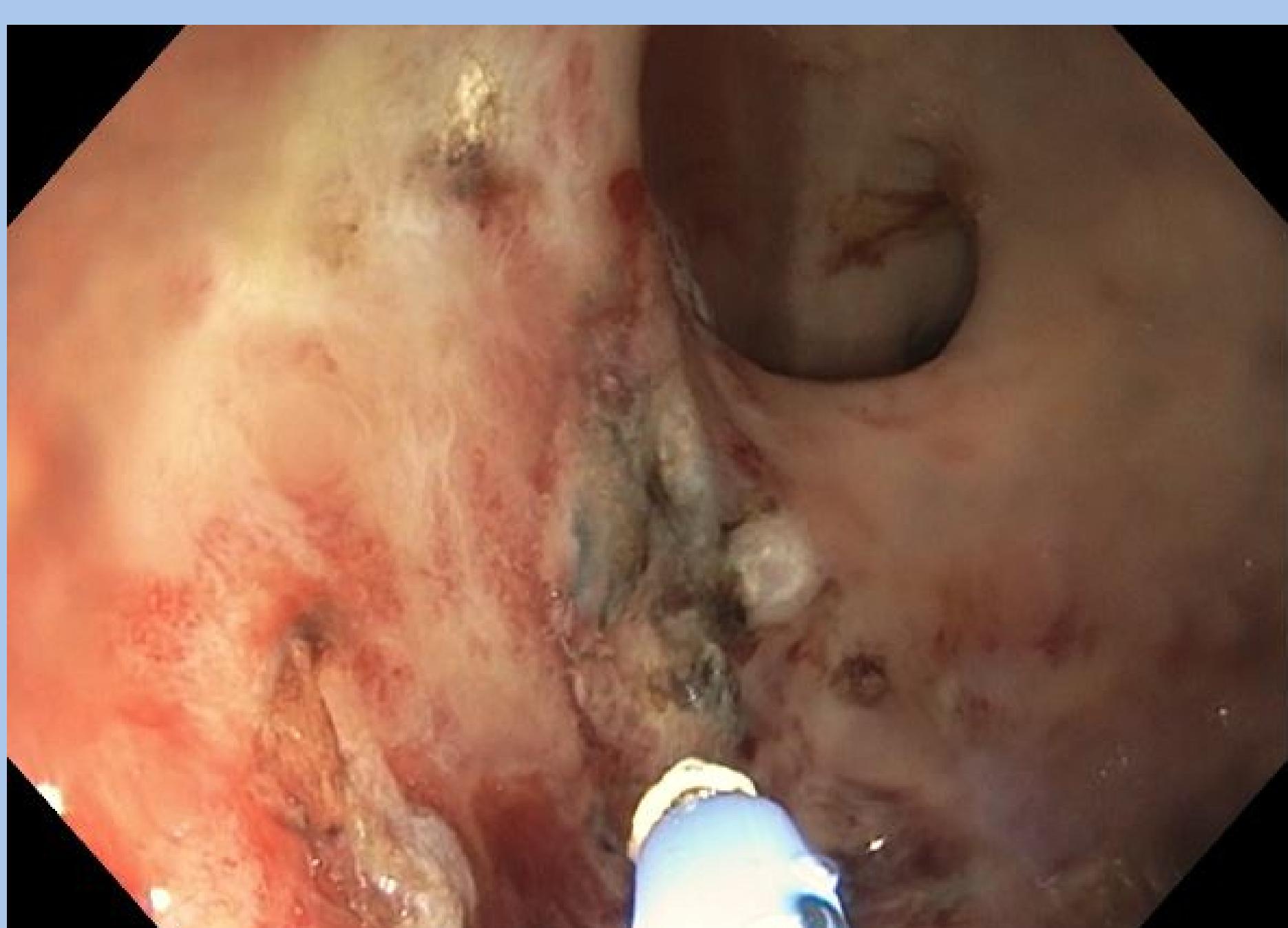
PMH:  
Mild dementia  
TIA  
CAD S/P MI stent X1  
T2DM  
HLD  
OSA  
AFIB  
RLS  
prostate Cancer S/P Radiation 1 year ago  
Social Hx  
Smoking: Quit 4 years ago 20 pack per Hx  
Religion:  
Jehovah witness  
  
CBC 6.6 WBC, Hgb 4.60, plt 172  
B12 550  
Folate 22.3  
MCV 65

Radiation induced proctopathy is a common complication in patients who have undergone radiotherapy for malignant pelvic tumors. Acute radiation injury in the rectum usually presents within 6 weeks of radiation therapy with symptoms of diarrhea, urgency, tenesmus, and rectal bleeding and is usually self-limited with resolution of symptoms within 2-3 months.<sup>1</sup> The mechanism thought to cause these symptoms involves damage to stem cells, resulting in decreased proliferation of normal cells which are necessary for endothelial repair. CRP has a delayed onset occurring months to years later after exposure to radiation therapy.<sup>1,4</sup> The clinical presentation is similar to acute radiation injury, with the exception of rectal bleeding is the most common symptom.<sup>3-5</sup> CRP is characterized by multiple rectal telangiectasias associated with mucosal pallor and friability which can be observed endoscopically.<sup>4</sup>

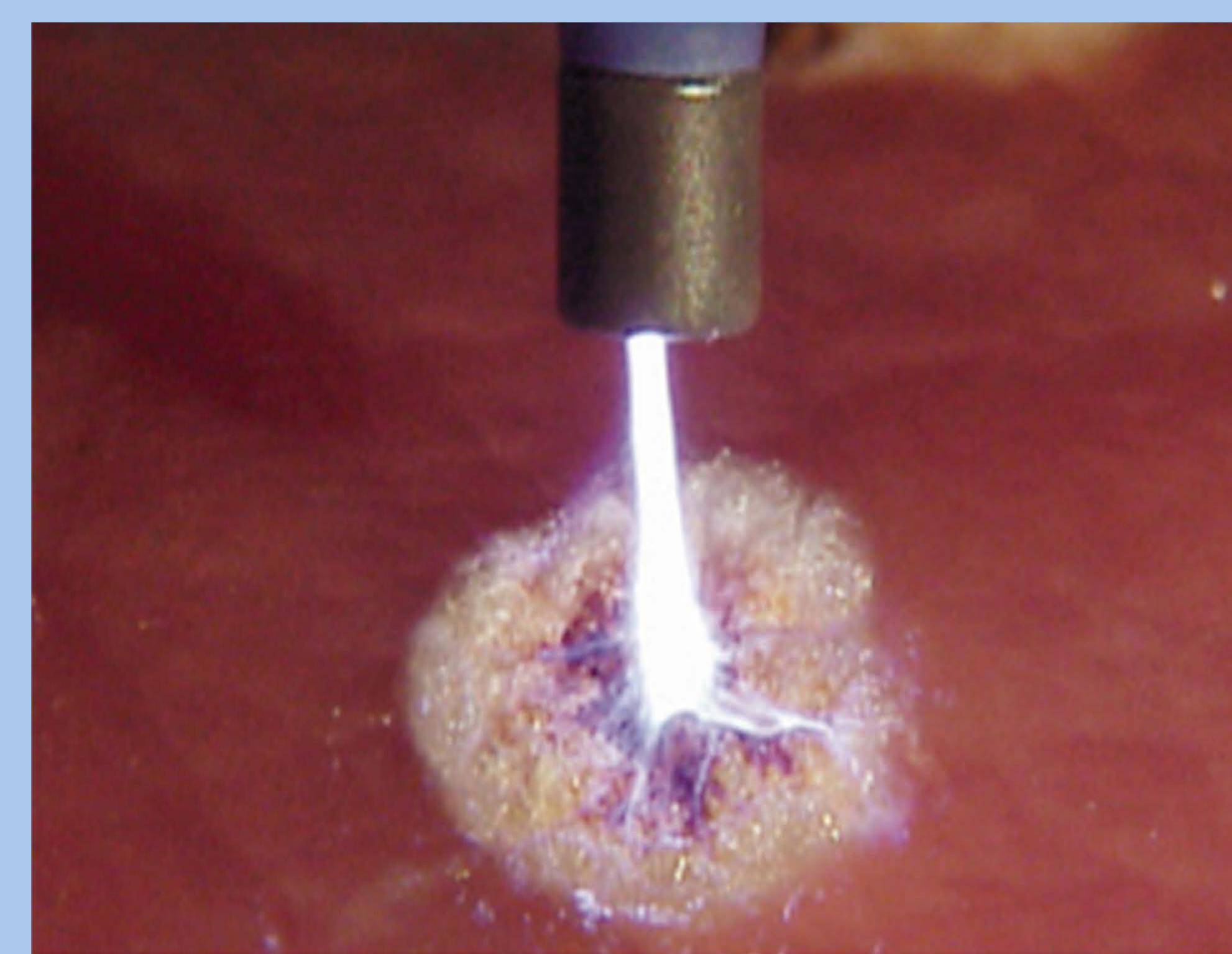
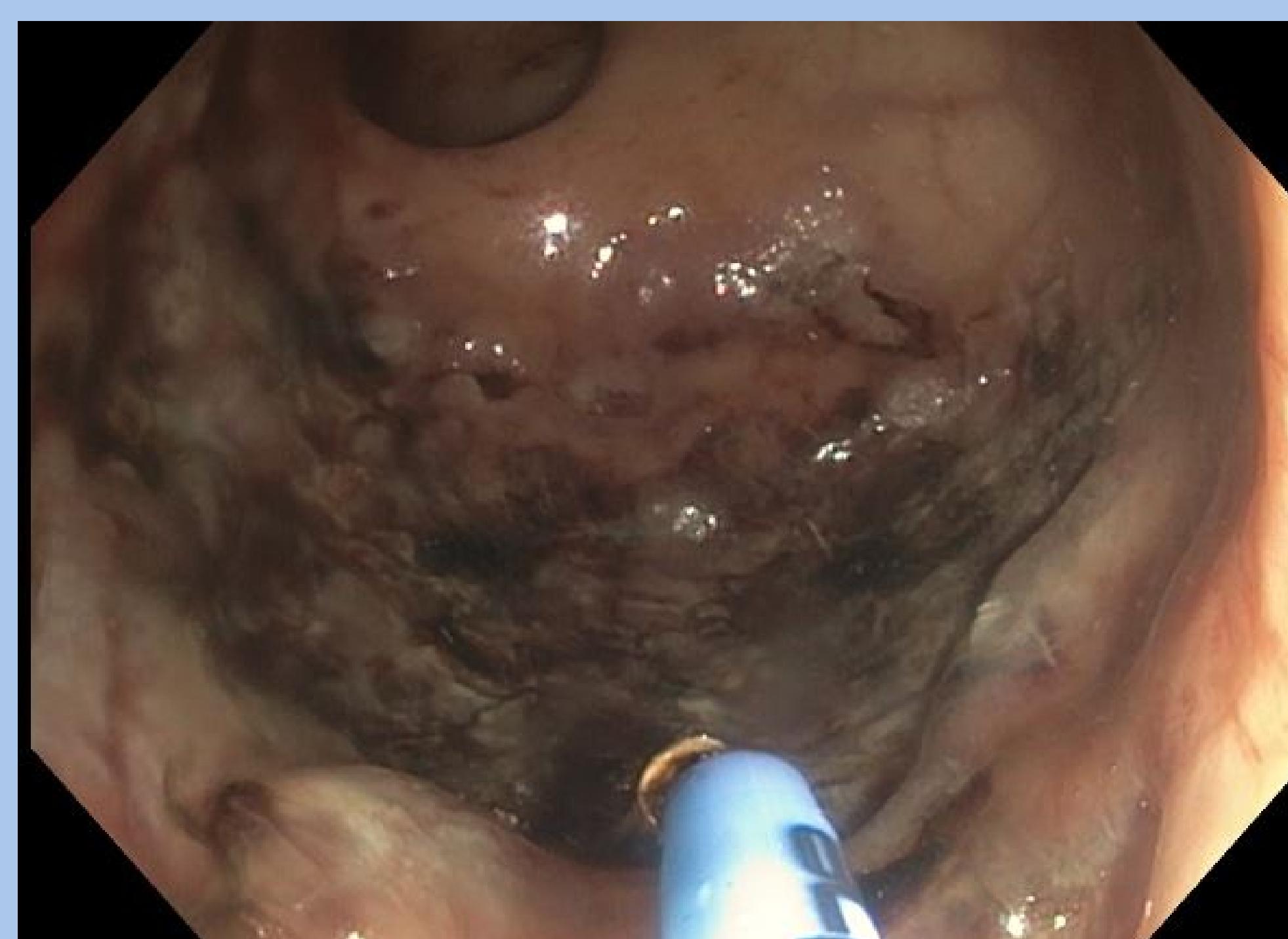
## Scopes



A colonoscopy performed the next day revealed a friable and edematous rectal mucosa with multiple angiectasias, consistent with radiation proctitis. Argon plasma coagulation (APC) was applied to the bleeding areas of the mucosa with an energy level of 40 W and gas flow of 1 l/min. The patient tolerated the procedure well and the hemorrhaging was controlled



Repeat colonoscopy 6 months later.



Not from patient

## Disscusion

Treatment of CRP continues to be an ongoing challenge as there are no currently defined guidelines due to a lack of randomized clinical trials. Rectal bleeding in CRP is both the most common and most difficult symptom to control due to recurrence.

Medical modalities of treatment explored include sucralfate, 5-aminosalicylic acid analogue sulfasalazine, corticosteroids, metronidazole, rebamipide, short-chain fatty acid, vitamin A and pentoxifylline have shown limited success.<sup>4,6</sup> Endoscopic therapy using modalities such as the heater probe, neodymium : yttrium-aluminium-garnet (Nd:YAG) laser, potassium titanyl phosphate (KTP) laser and bipolar electrocoagulation all have shown some benefit but at the cost of high level of complications.<sup>6</sup> According to Al-amin et al, treatment of CRP with oral sulfasalazine, tranexamic acid, sucralfate and rectal steroid retention enema alone or in combination has not been satisfactory for controlling blood loss leading to APC and hyperbaric oxygen therapy as more popular modalities of treatment.<sup>7</sup> Surgical management is used as a last resort in the event that all other treatment modalities have been exhausted as it can lead to significant morbidity and mortality.<sup>5,7</sup> Sebastian et al conducted a study which included 25 patients with a mean age of 69 years, who were treated with a median of one treatment session with APC. They showed that there was complete resolution of bleeding in all patients along with a rise in hemoglobin levels 6 months following treatment along with improvement in other symptoms such as urgency and diarrhea.<sup>5</sup> Although no specific guidelines exist to treat CRP, APC has emerged as the most preferred method for prevention of chronic blood loss, thereby reducing the need for blood transfusion and leading to reepithelialization of the mucosa.<sup>3,6</sup> Higuera et al conducted a similar study with 10 patients and also showed effective control of bleeding and further concluded that argon plasma coagulation appears to be a safe treatment for rectal bleeding resulting from chronic radiation proctitis when compared to standard medical and endoscopic treatments with successful outcomes persisting even after long term follow-up.<sup>3</sup> Therefore, GI team elected to use APC as our modality of choice to control hemorrhage in our patient. Our patient being a Jehovah's witness required immediate control of bleeding as he refused transfusion, APC was able to achieve that control without any complications would go here.

## Acknowledgements

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