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INTRODUCTION

- Severe hypoalbuminemia (<1 g/dL) is a rare complication of ulcerative colitis (UC)
 - May be debilitating and refractory to therapy
- Literature reports indicate that colectomy is curative, and treatment of choice
- We successfully treated such a patient medically

CASE

- 40-year-old female with UC
 - Diagnosed with proctosigmoiditis in 2017
 - Initially treated with oral mesalamine
 - Lost to care from 2018 through 2021
- Presented in November 2021 with disease flare
 - Imaging showed pan-colitis
 - Started on corticosteroids
 - Began therapy with infliximab, with initial symptomatic improvement
- However, had continued diarrhea and developed increased symptoms
- Was found to have anasarca during the steroid taper and was admitted
- Had notable hypoalbuminemia (Figure 1) and elevated inflammatory markers (Figure 2):
 - Serum albumin 0.5 mg/dL
 - C-reactive protein 103.8 mg/L
 - Fecal calprotectin 1,126 µg/g
- Infection was ruled out with stool studies
- Colonoscopy was performed (Figure 3a-c)
 - Extensive pseudopolypsis
 - Friable mucosa in the ascending, transverse, and sigmoid colon
- Non-intestinal causes of protein loss were ruled out

CASE

- Fecal alpha-1-antitrypsin measured
 - Before infliximab infusion: 0.850 mg/g
 - After infliximab infusion: 0.110 mg/g
- Infliximab trough levels were undetectable, on 10 mg/kg every 6 weeks dosing
- Given intravenous albumin and diuretics with some improvement:
 - Serum albumin concentration plateaued around 2.5 g/dL (Figure 1)
- Mesalamine added to medication regimen
- After addition of mesalamine, patient improved rapidly:
 - Cessation of diarrhea
 - Rise in serum albumin concentration to 3.5 g/dL over 4 weeks (Figure 1)
 - Clearance of edema

CONCLUSIONS

- Severe hypoalbuminemia as a result of ulcerative colitis has previously been described
 - May lead to treatment failure and colectomy, even during treatment with biologic agents.
- Some cases are not due to intestinal protein losses
 - E.g., coexisting Menetriere's disease or nephrotic syndrome
- Elevated clearance rates of the biologic agents lead to subtherapeutic serum levels and antibody formation, promoting treatment failure
- This case suggests that there may a role for adjunctive 5-ASA therapy in patients with extensive mucosal involvement
- As part of the medications' anti-inflammatory effects, they decrease enteric loss of infliximab and elevate serum levels of the drug

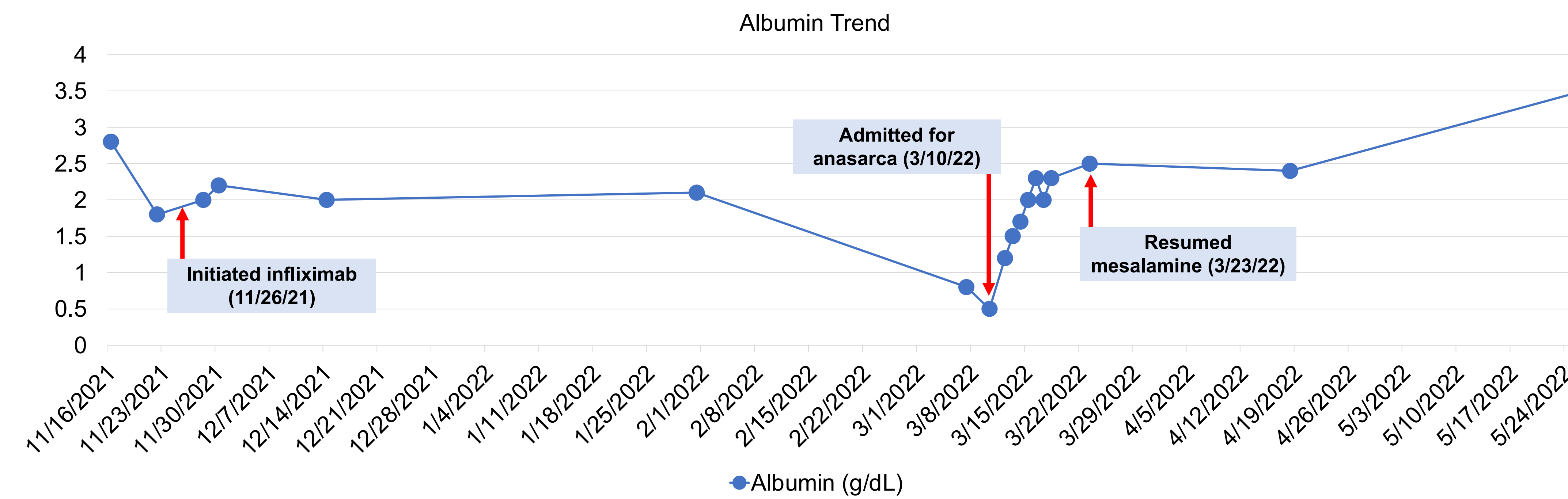


Figure 1. Trend of the patient's serum albumin level over time, from initial presentation with disease flare in November 2021. Arrows with annotations indicate when infliximab was initiated, when patient was admitted with anasarca and hypoalbuminemia, and when mesalamine was resumed.

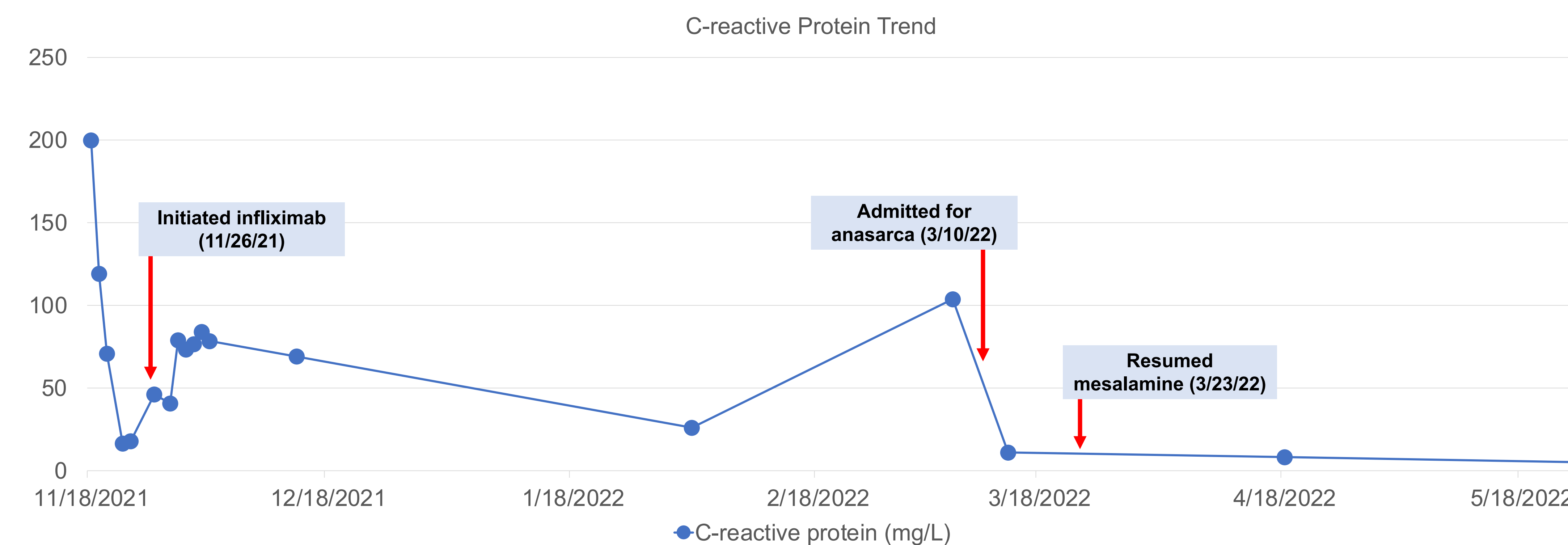


Figure 2. Trend of the patient's c-reactive protein over time, from initial presentation with disease flare in November 2021. Arrows with annotations indicate when infliximab was initiated, when patient was admitted with anasarca and hypoalbuminemia, and when mesalamine was resumed.

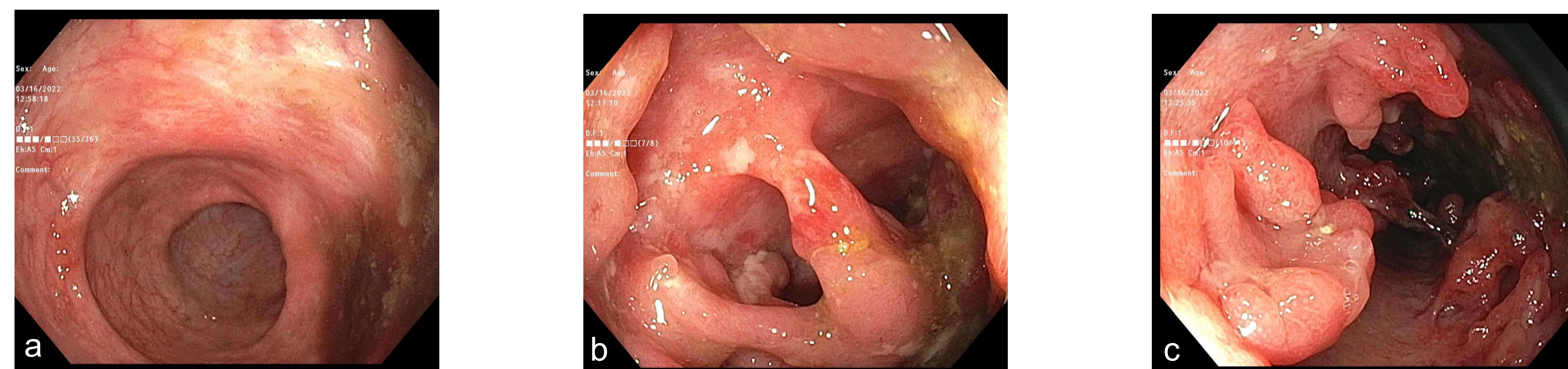


Figure 3a-c. Colonoscopy during admission, with photos of the a) rectum, b) sigmoid colon with mucosal bridge, pseudopolypsis, and friability, and c) transverse colon with pseudopolypsis and friability.