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Intestinal Ultrasound in Ulcerative Colitis

IBUS Module 1 Workshop

Calgary, Alberta | April 10, 2026

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Objectives

- Series of cases that aim to demonstrate various uses of intestinal ultrasound in the diagnosis and management of ulcerative colitis
  - Initial presentation - diagnostic utility
  - Established patient – persistent symptoms
  - Established patient – new symptoms
  - Established patient – no symptoms

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Case 1: New patient visit – history and physical examination

- 18-year-old otherwise healthy female with 1-month worsening rectal bleeding, increased bowel frequency, tenesmus, lower abdominal pain and episodic incontinence who presents to gastroenterology outpatient clinic
- 4-6 bowel movements daily including 1-2 at night
- Incontinence twice in the past week
- No weight loss, no fevers, no rigors
- No joint pains, no rashes, no vision/eye concerns

- Examination:
  - Tachycardic (118 bpm) with otherwise normal vitals
  - Normal physical examination

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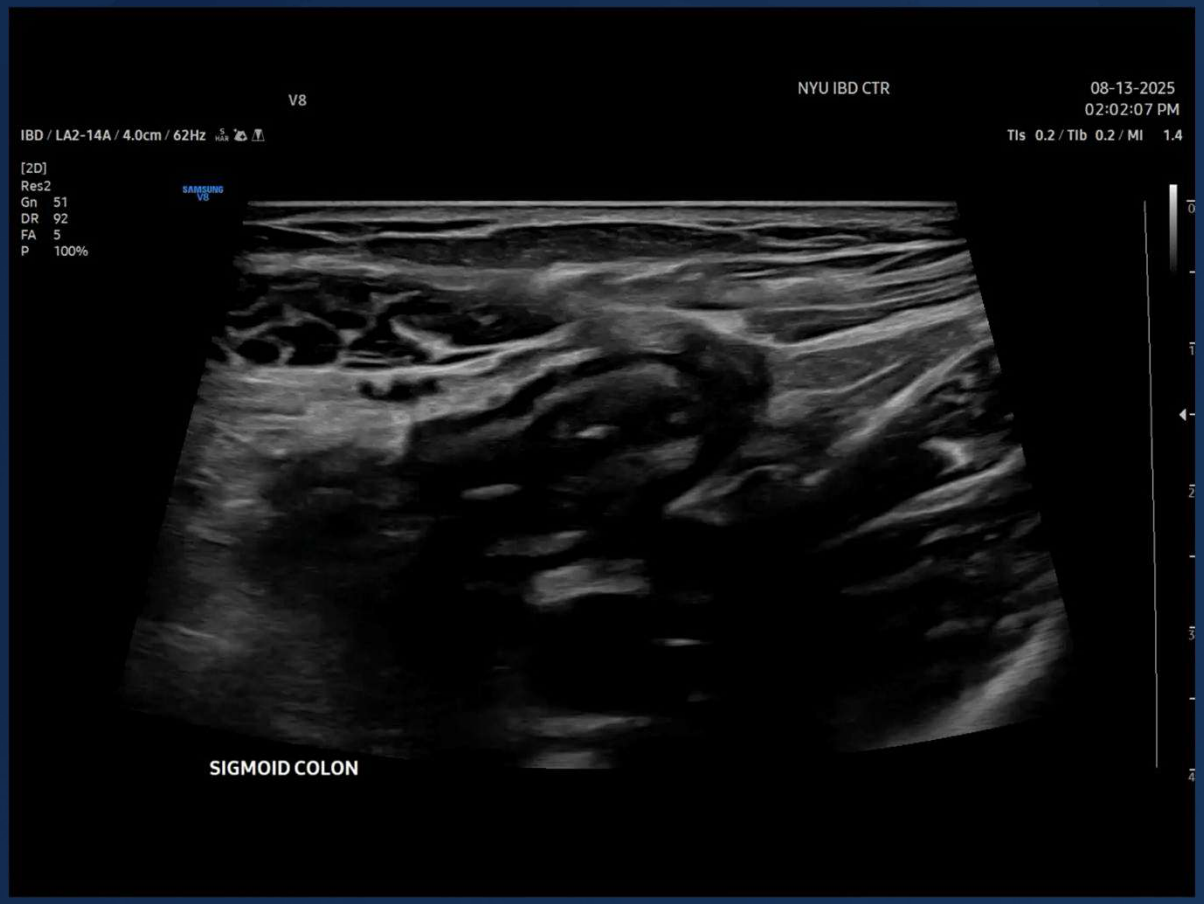
Case 1: New patient visit - plan

- Intestinal ultrasound
- Stool studies: fecal calprotectin, C. difficile, stool culture
- Blood work:
  - Comprehensive metabolic panel
  - Quantiferon gold, hepatitis B serologies
  - Complete blood count
  - C-reactive protein
  - Iron studies

Initial intestinal ultrasound



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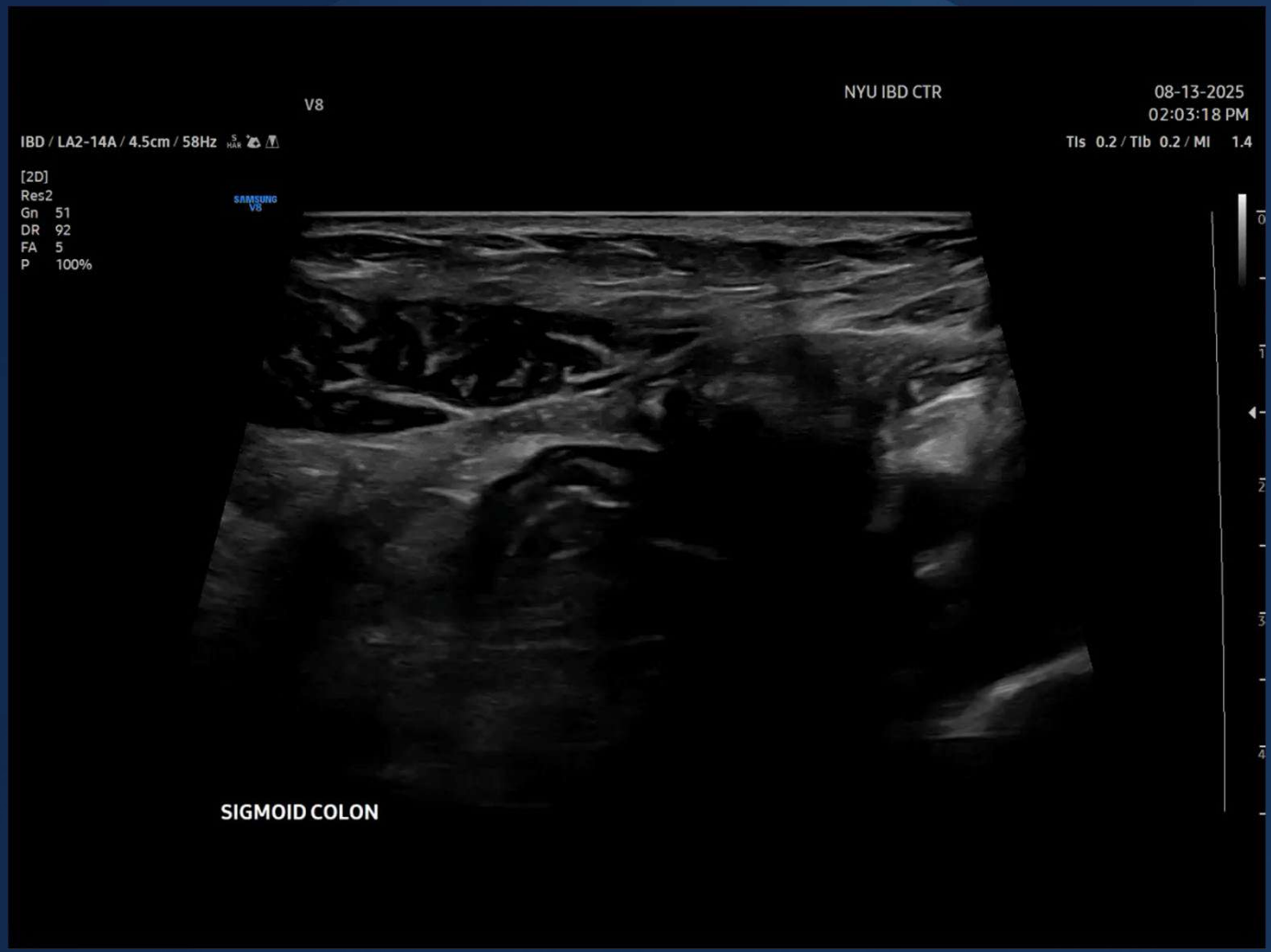

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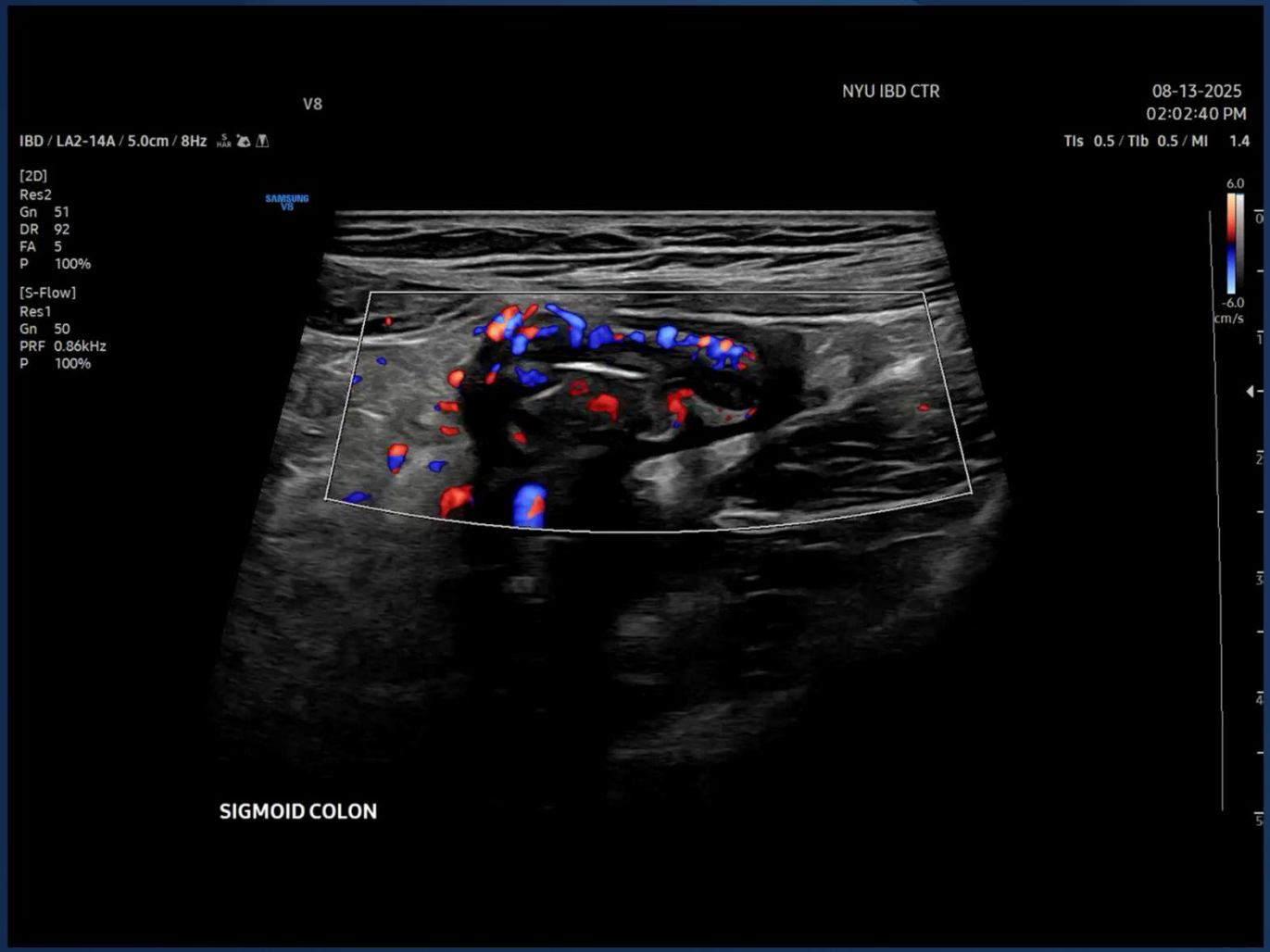

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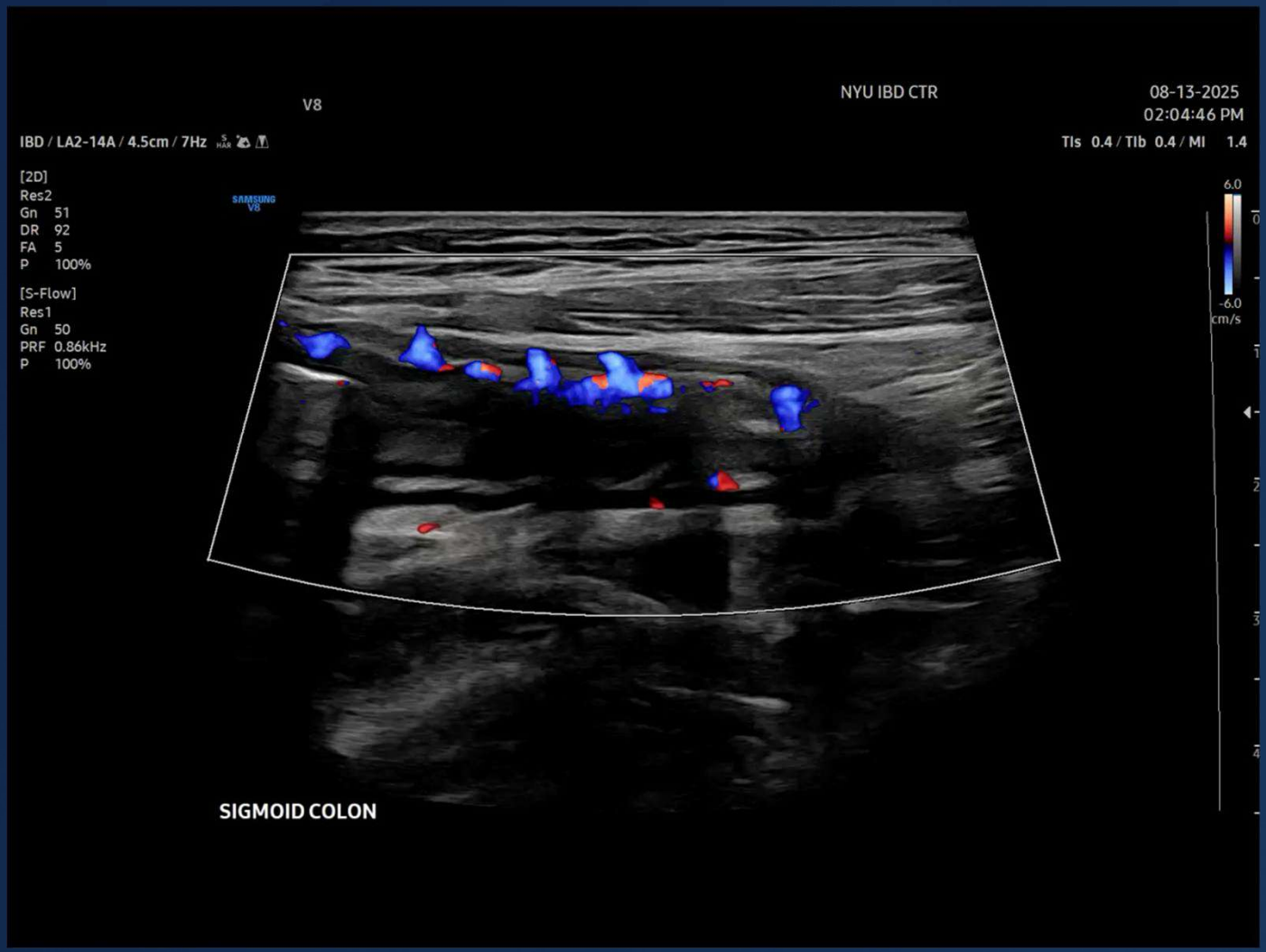

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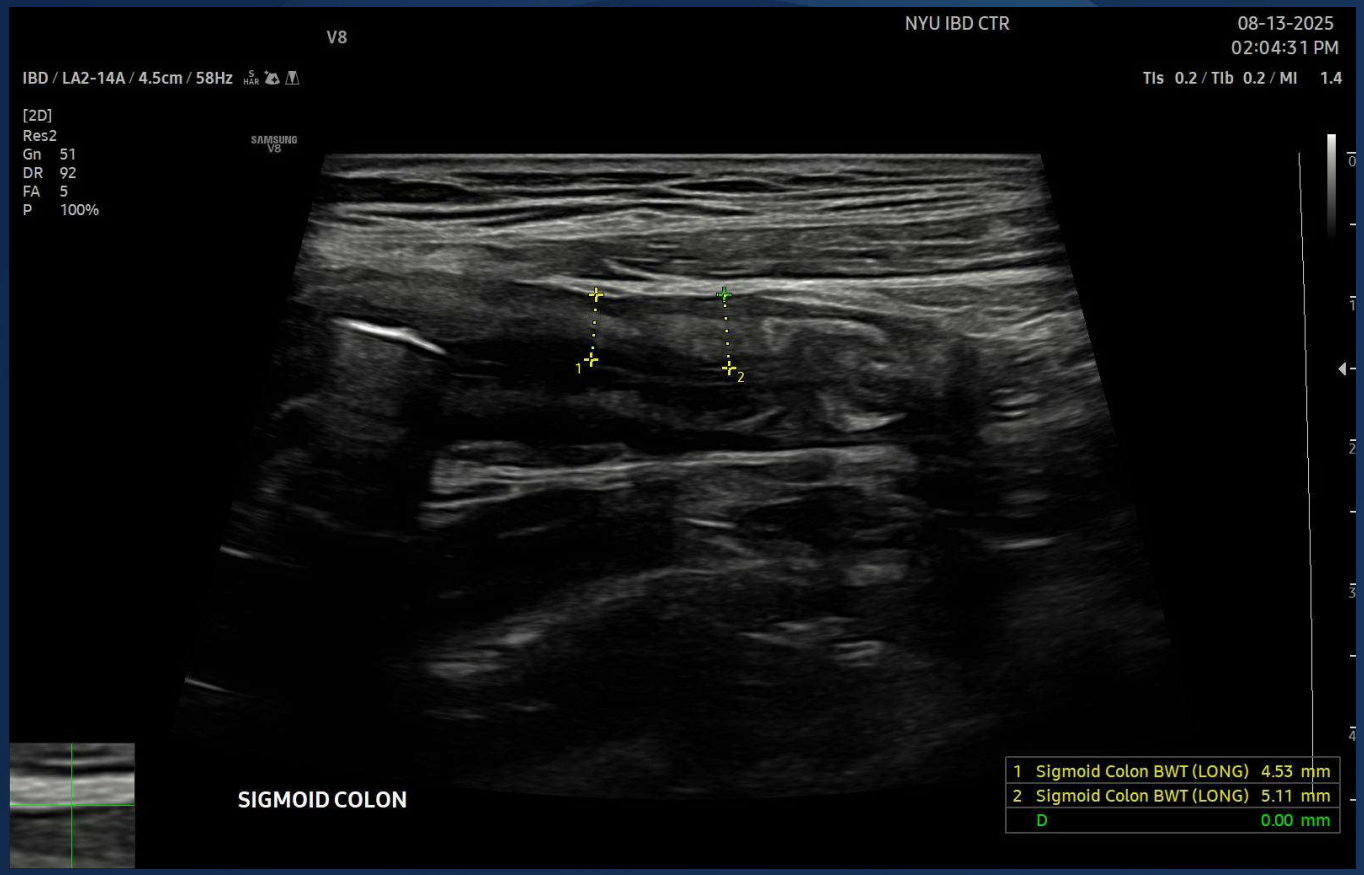

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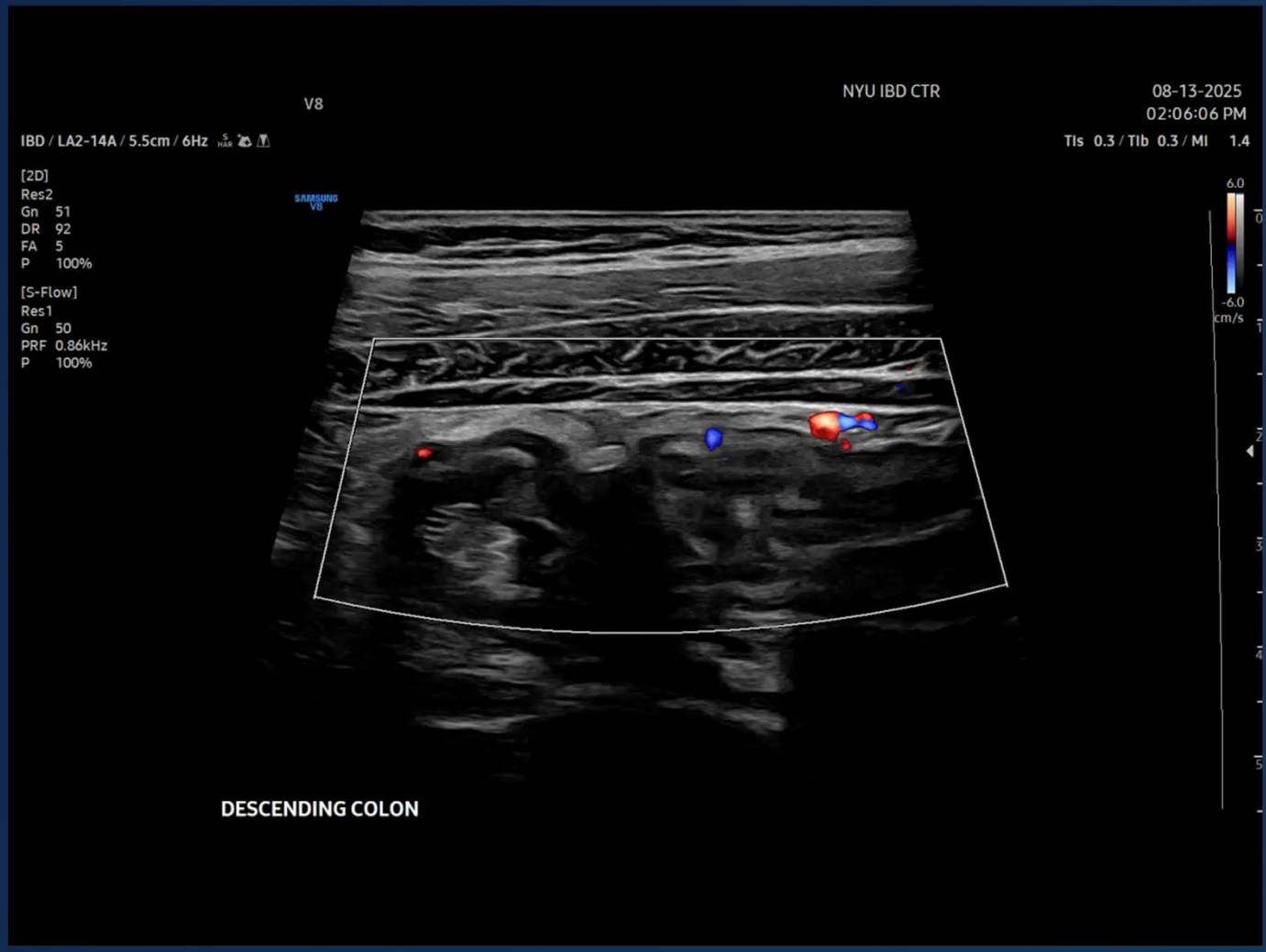

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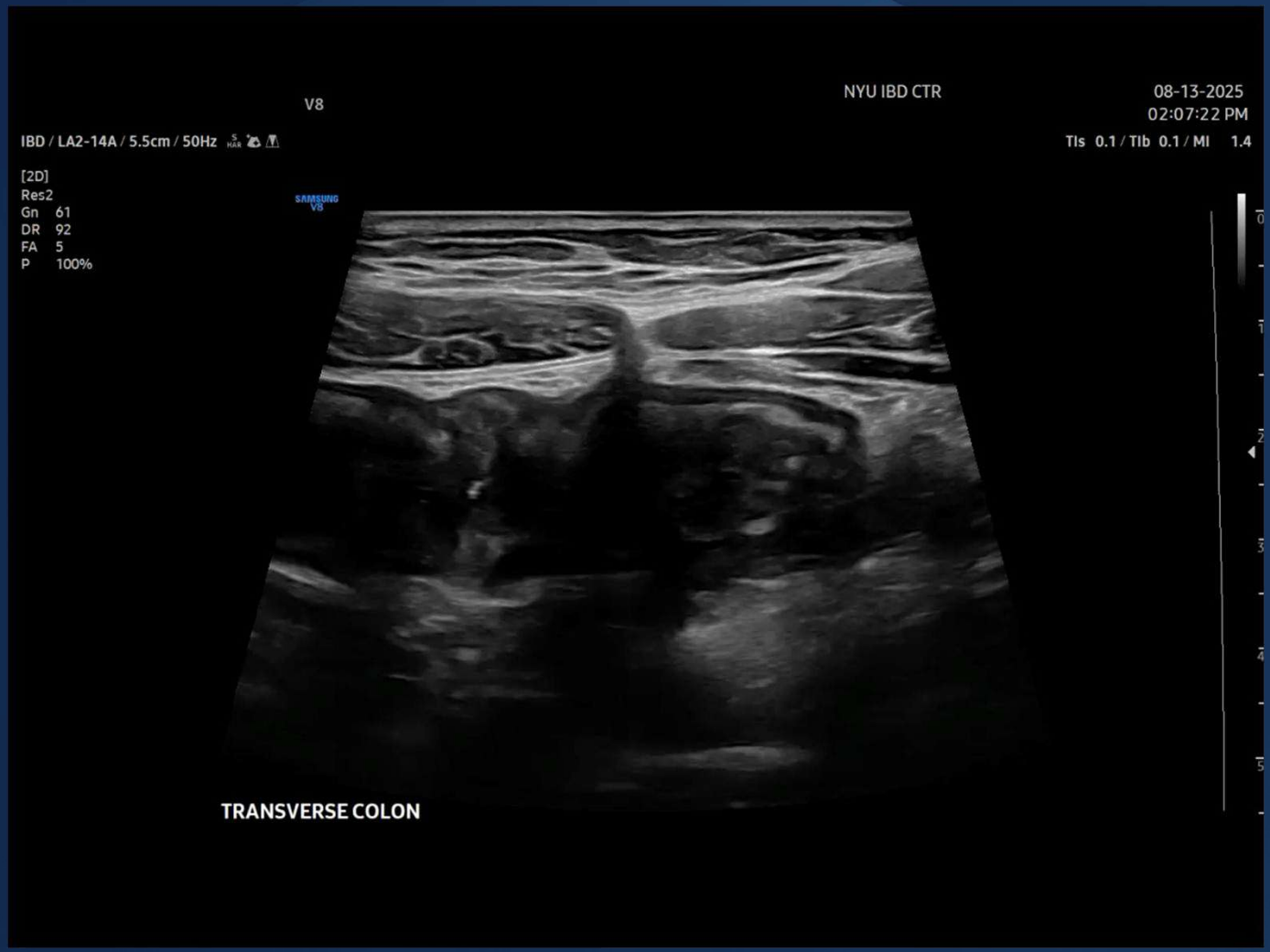

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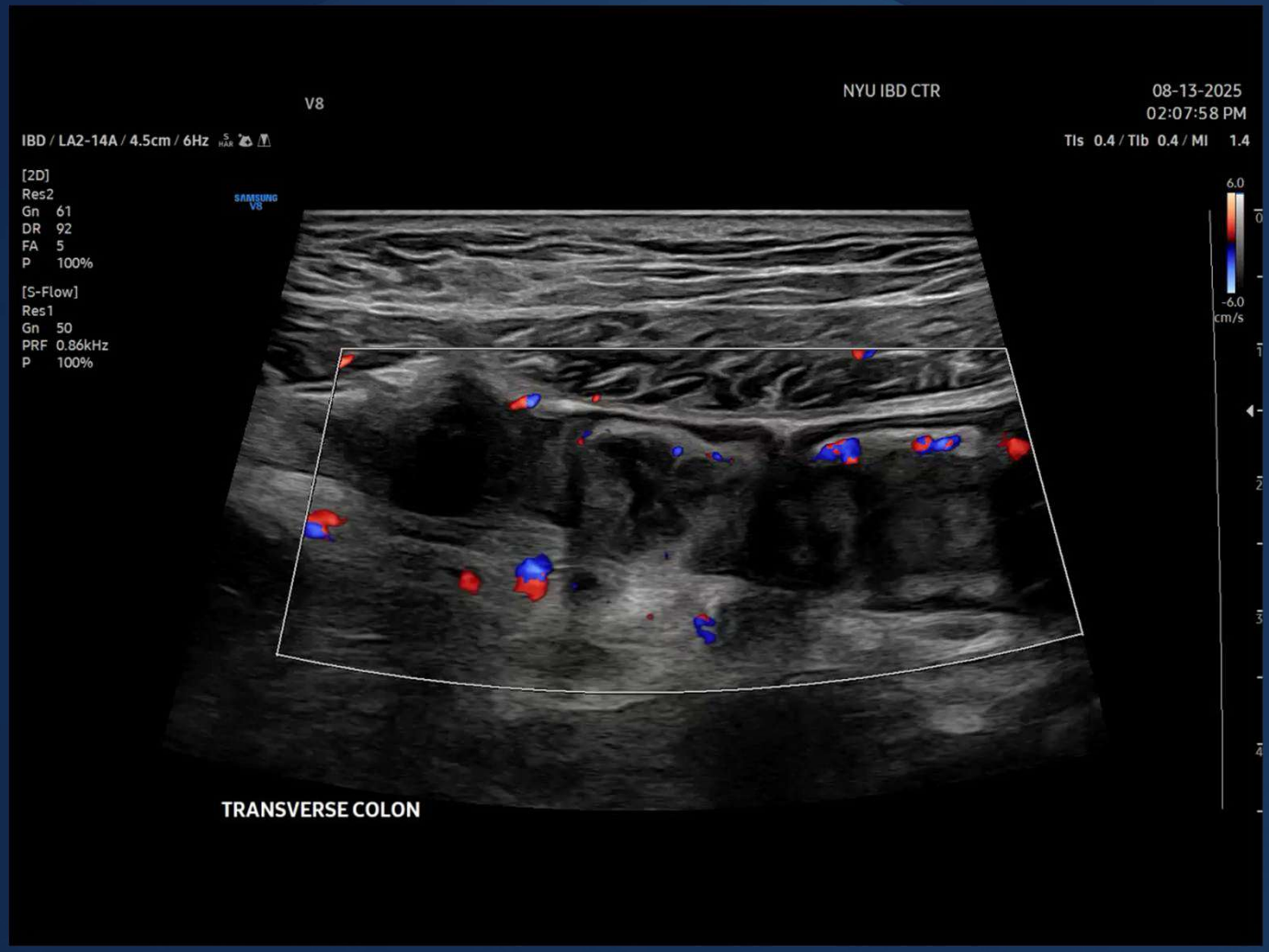

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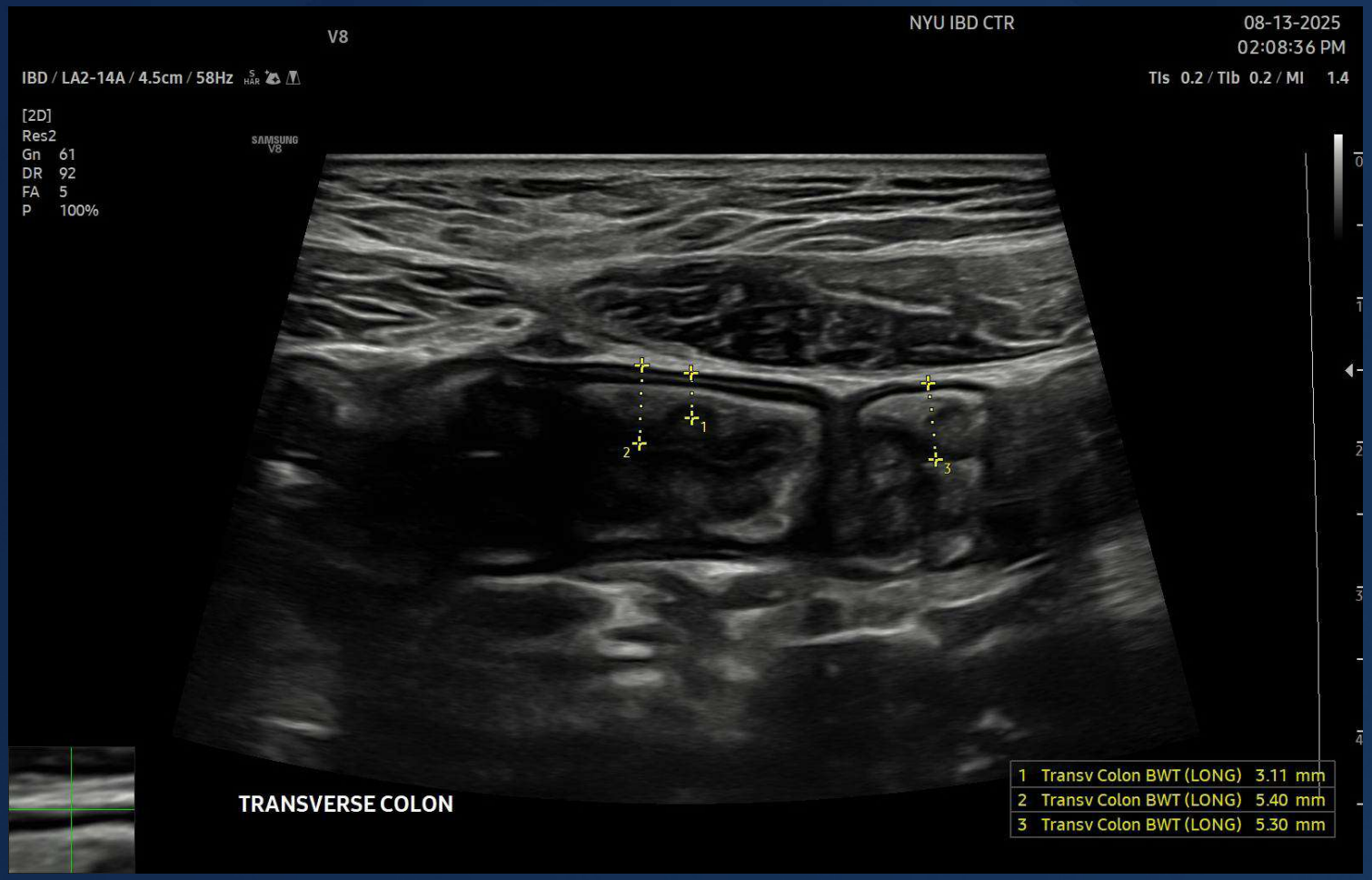

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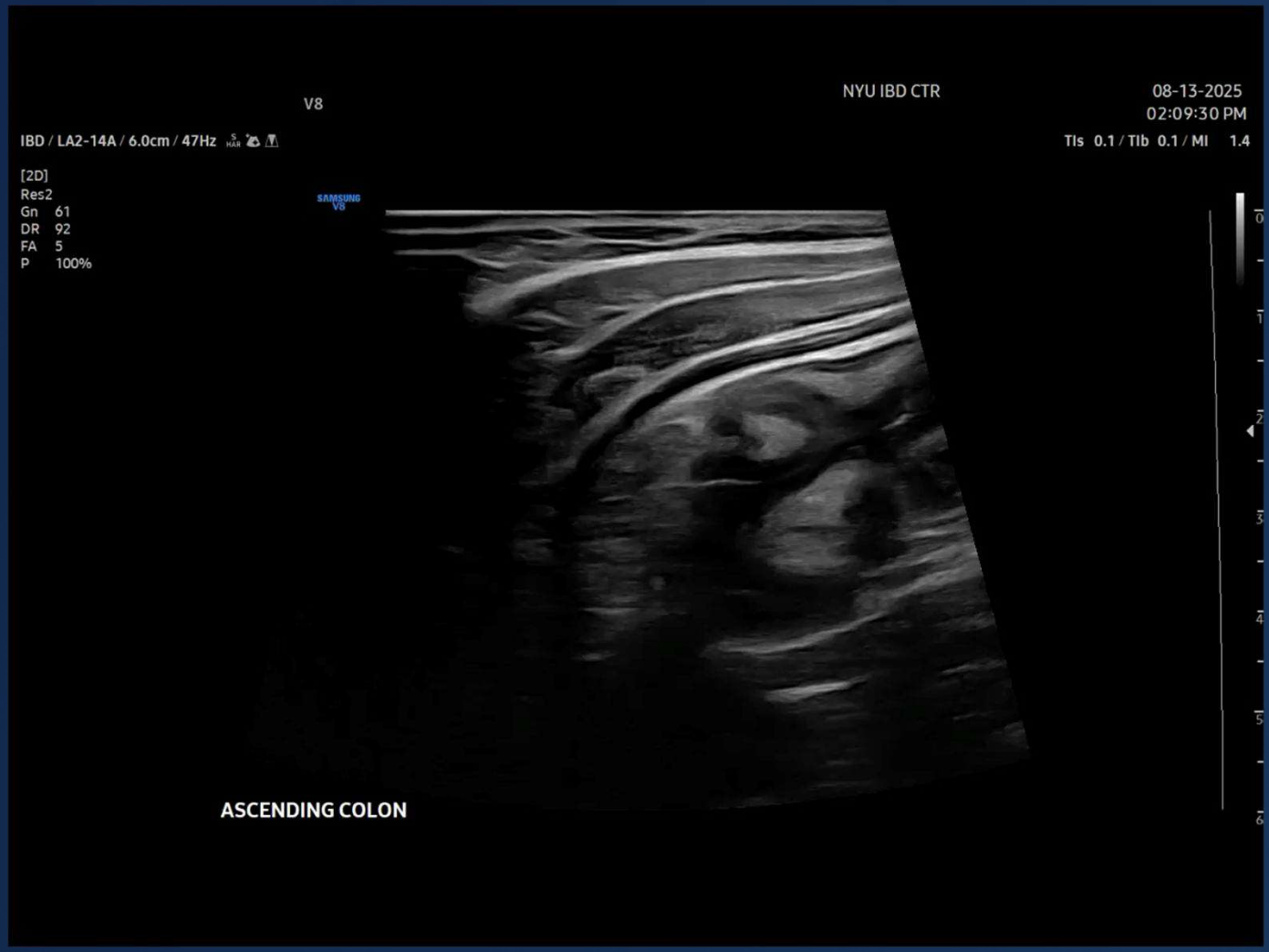

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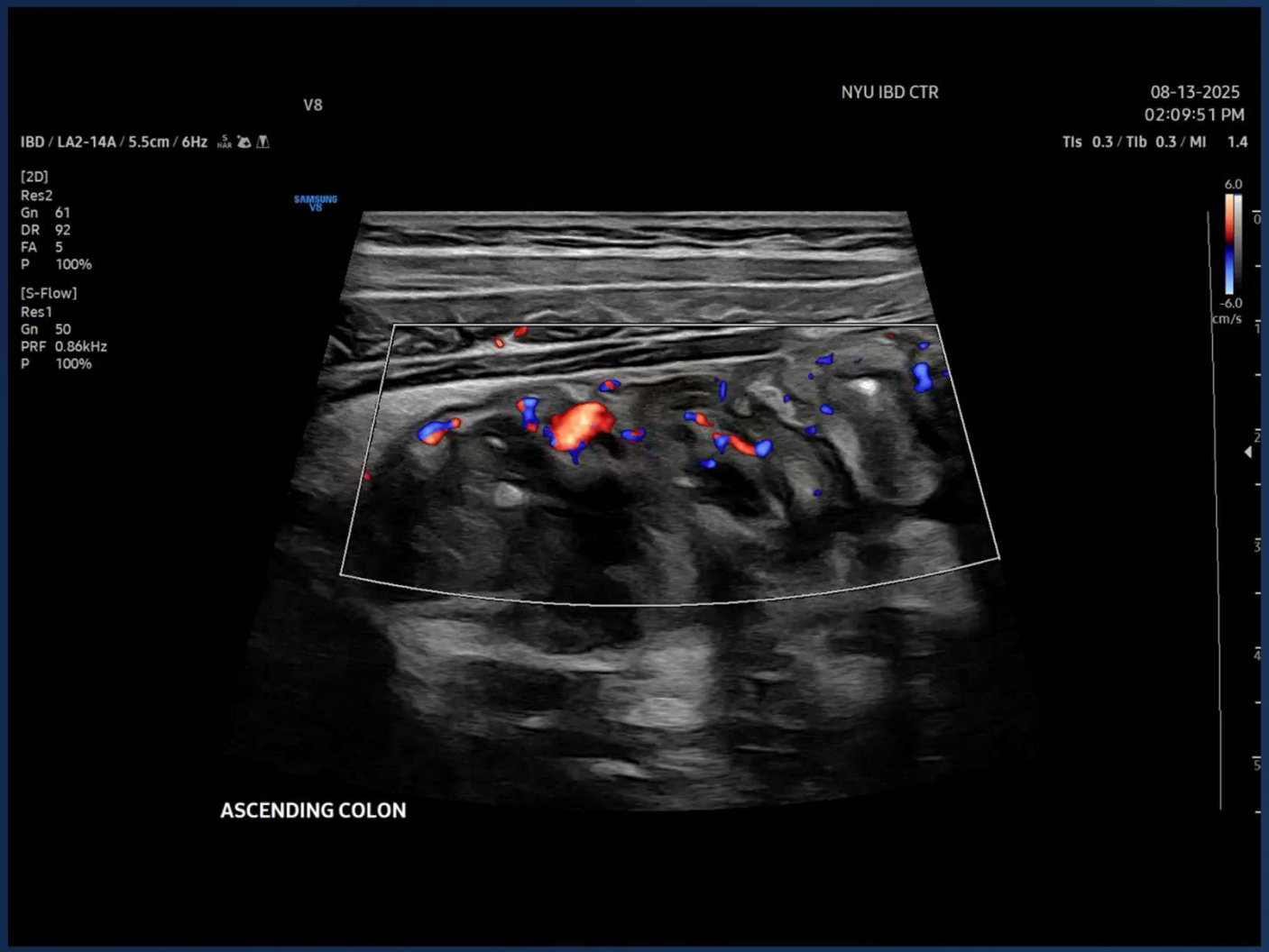

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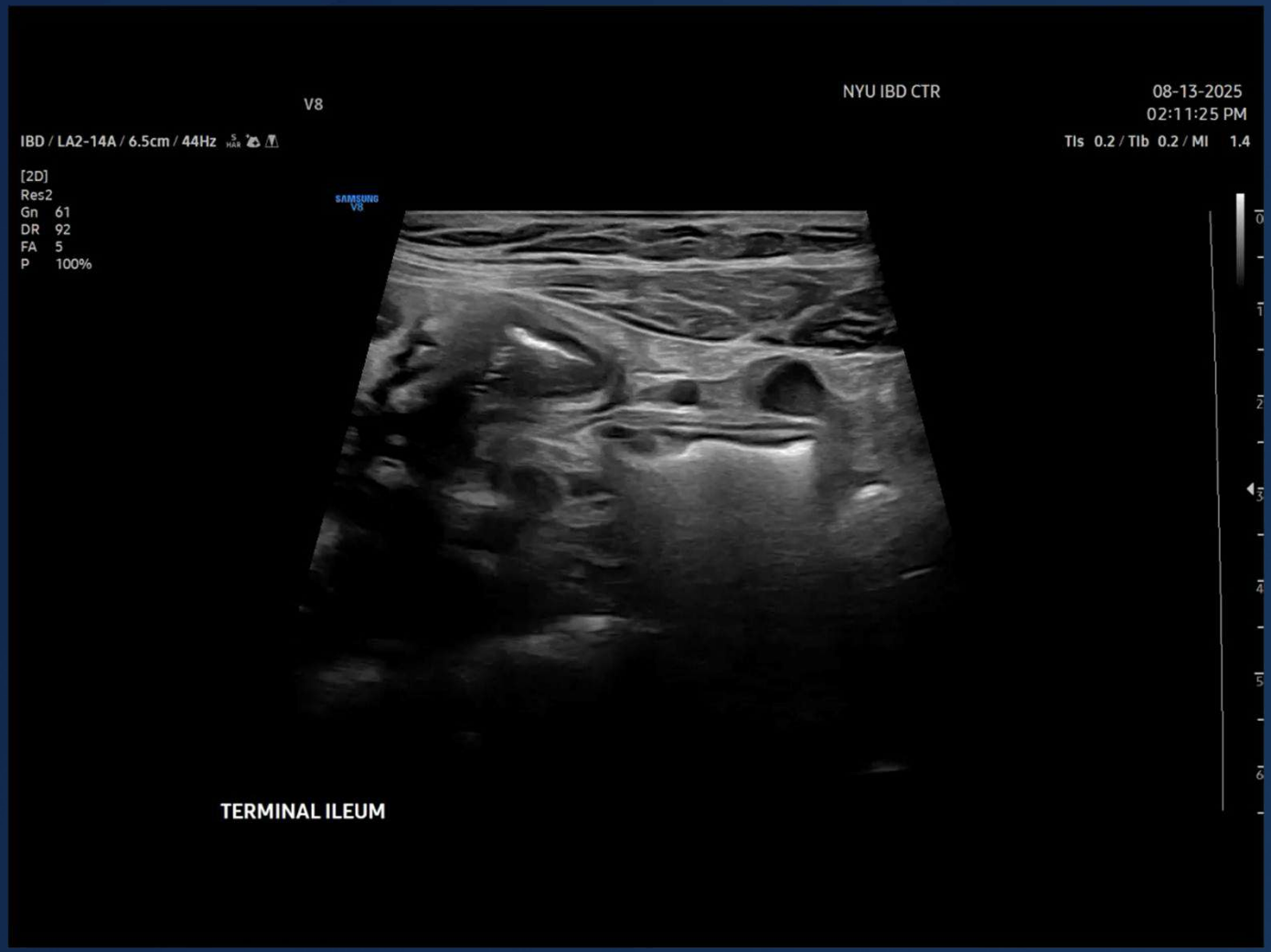

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Case 1: New patient visit – additional results

- Fecal calprotectin not resulted
- Negative stool infectious studies, including C. difficile
- WBC 13.2, Hgb 12.8, Platelets 507
- Albumin 3.9
- C-reactive protein 28.9 mg/L

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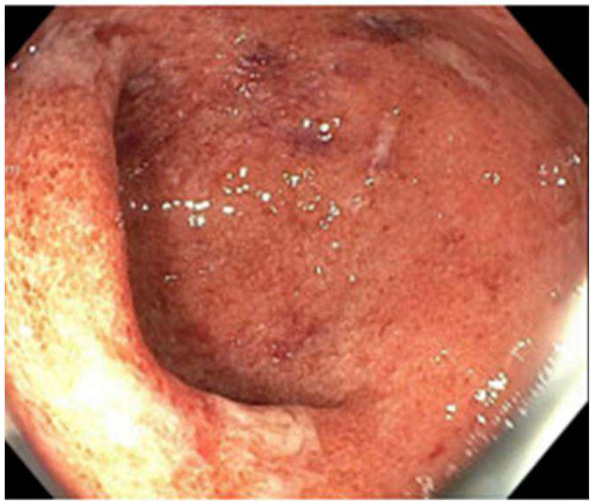
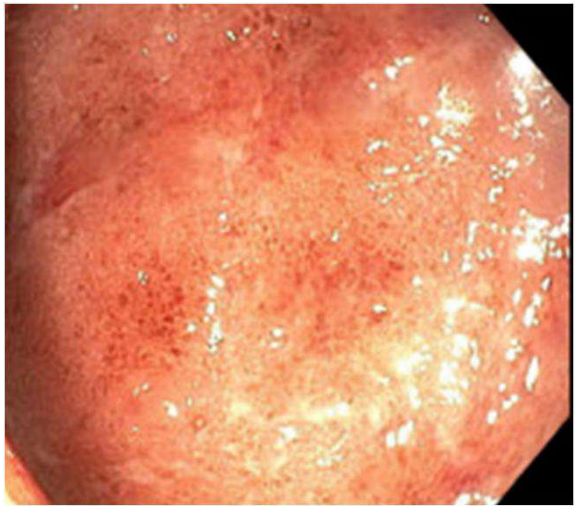
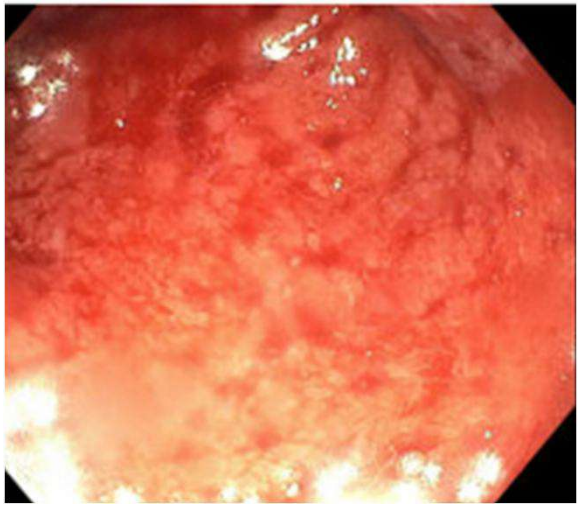
Case 1: New patient visit – colonoscopy



Rectum



Sigmoid Colon



Descending Colon

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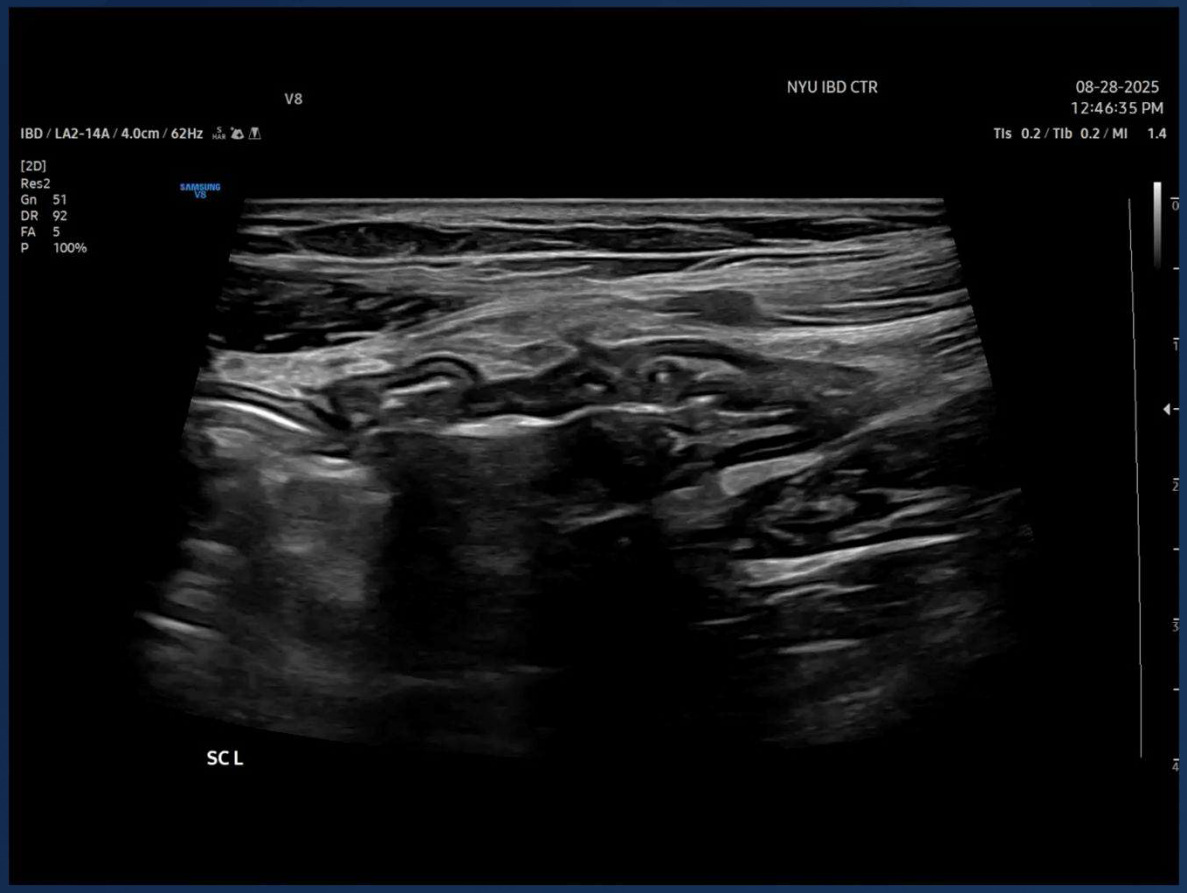
Case 1: New patient visit – plan

- Following colonoscopy started prednisone 40 mg daily, budesonide rectal foam nightly and CurQD
- Returned 1-week later for repeat intestinal ultrasound
- Symptoms at follow-up:
  - 1-2 formed bowel movements daily
  - Resolution of tenesmus, incontinence, and nocturnal bowel movements

IUS at 1-week follow up



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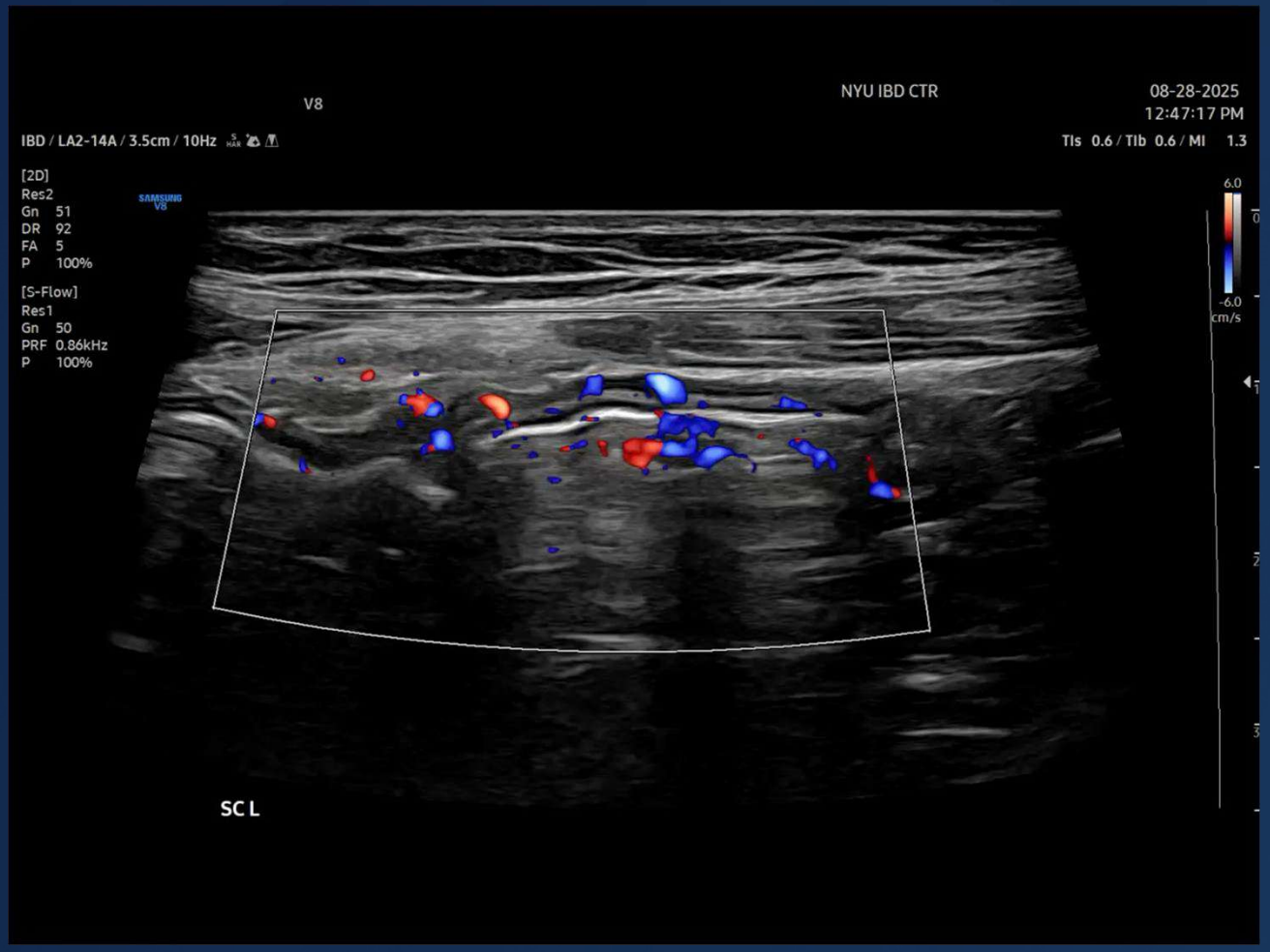

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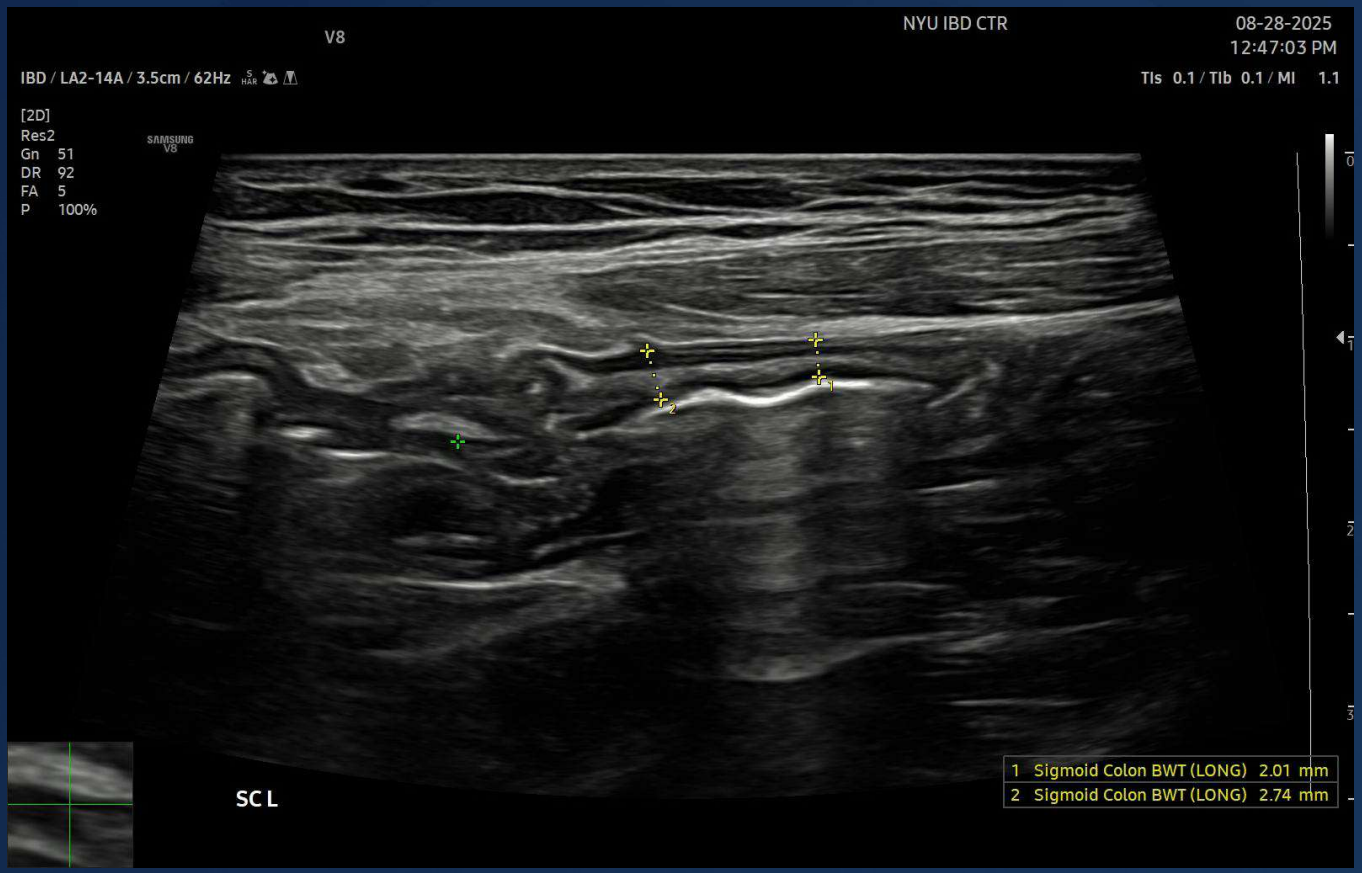

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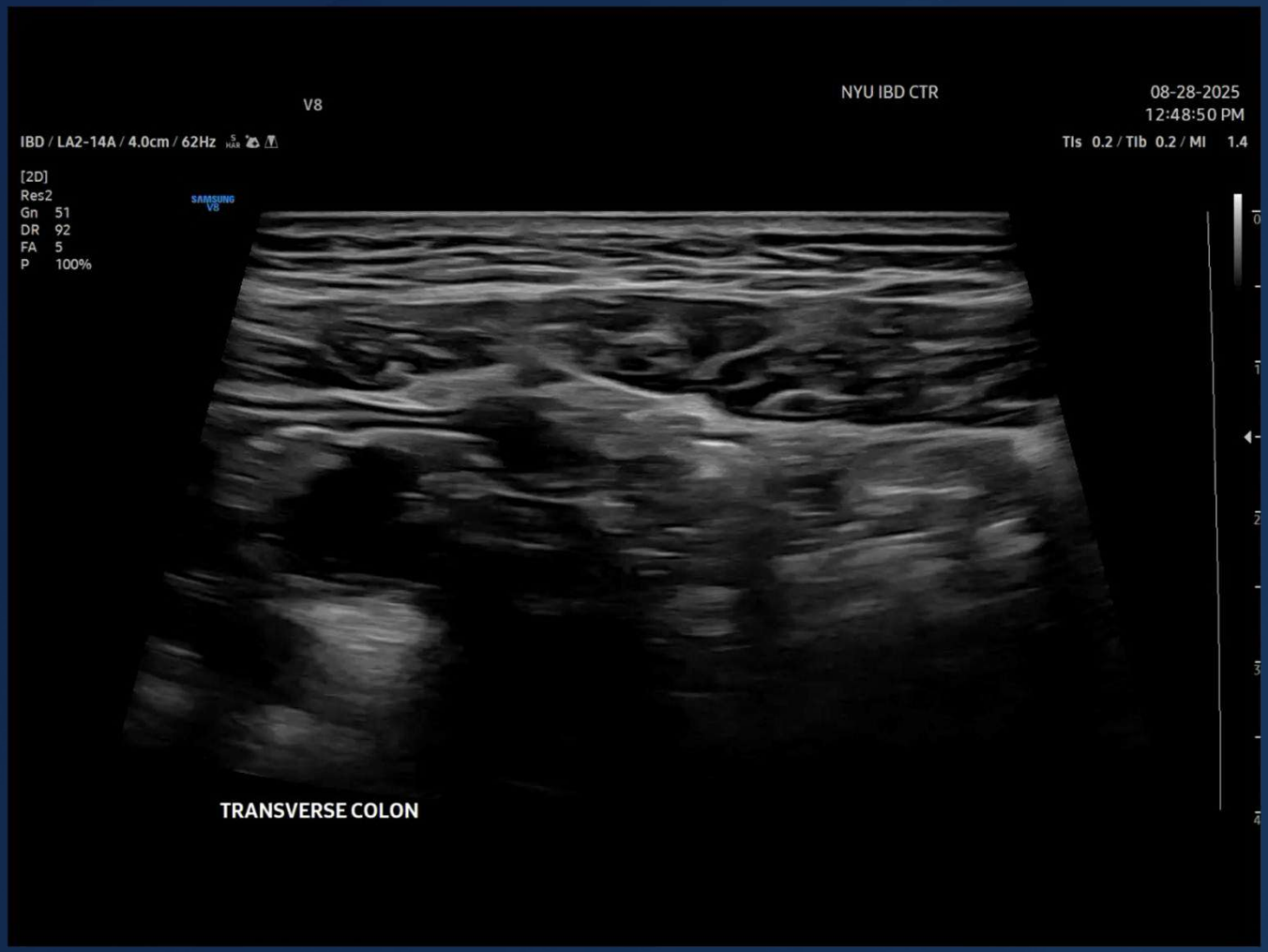

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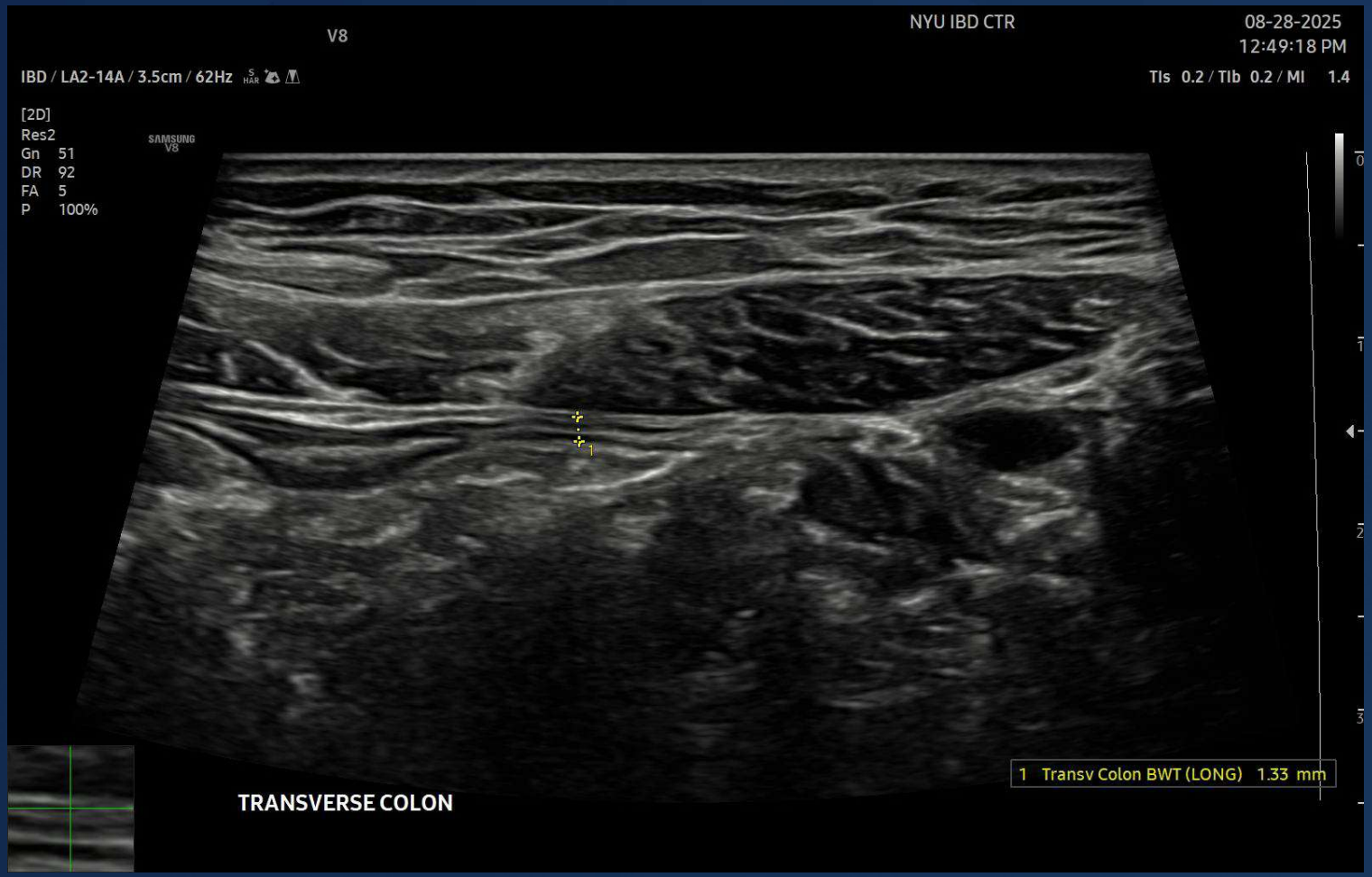

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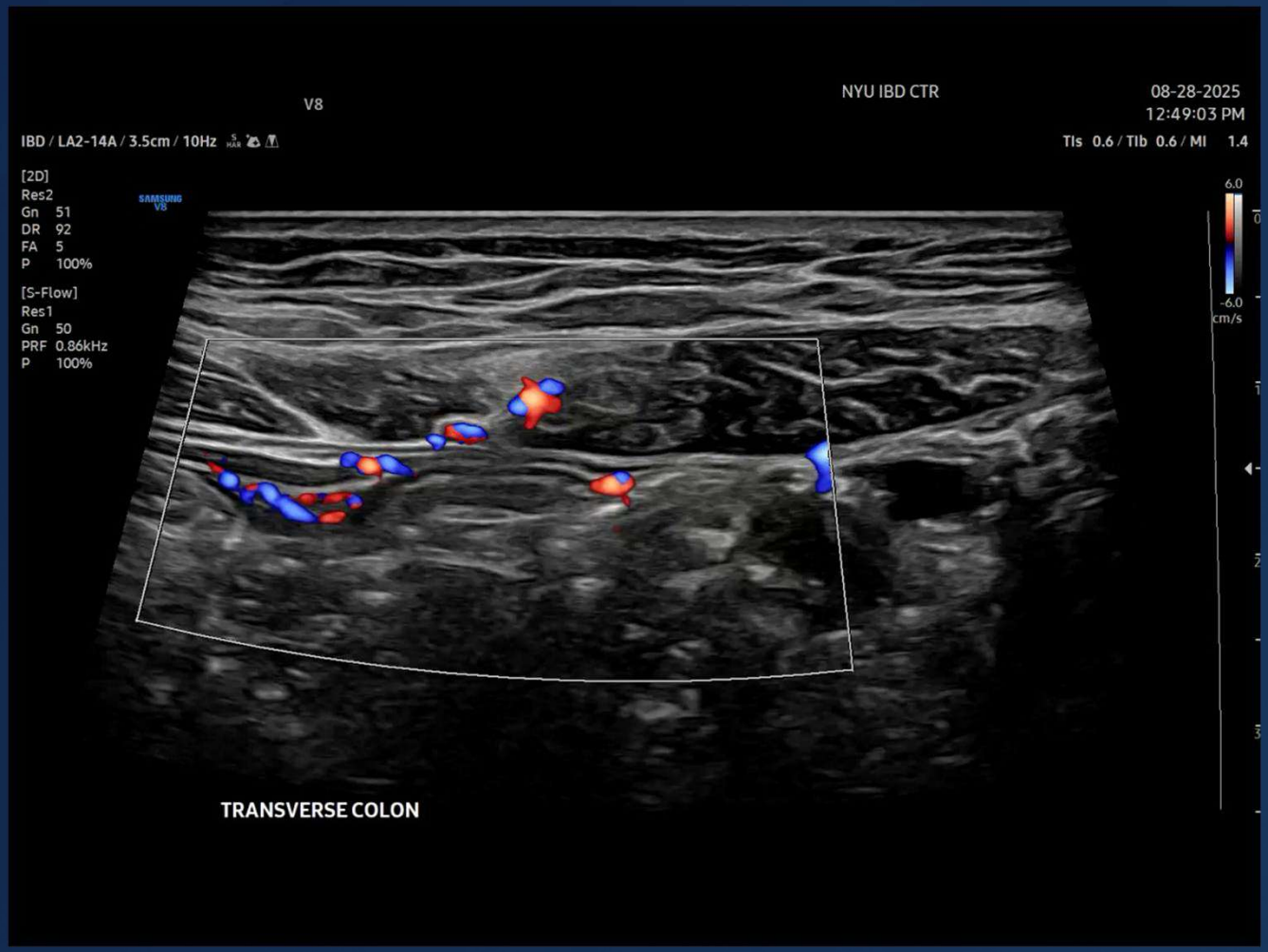

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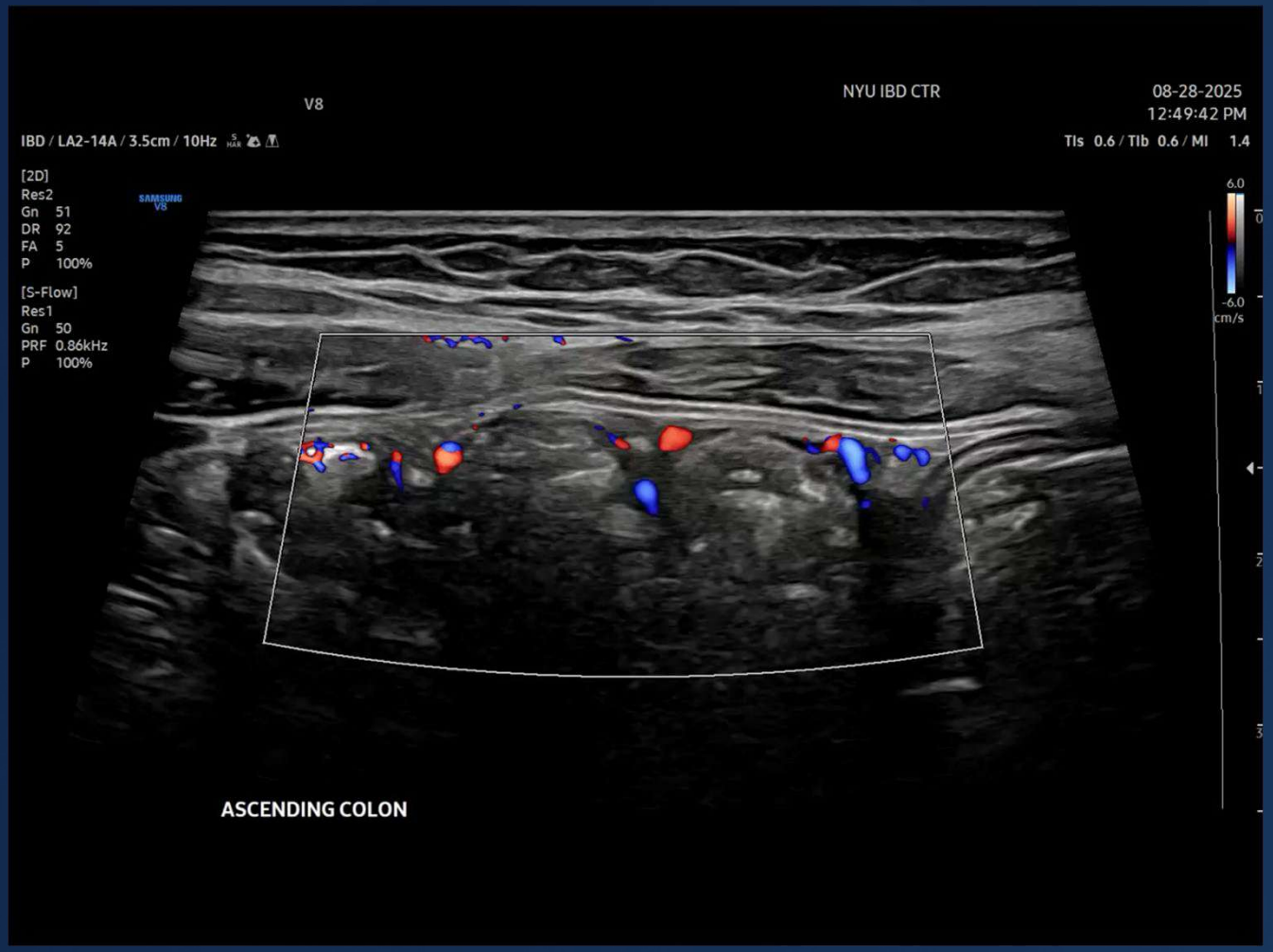

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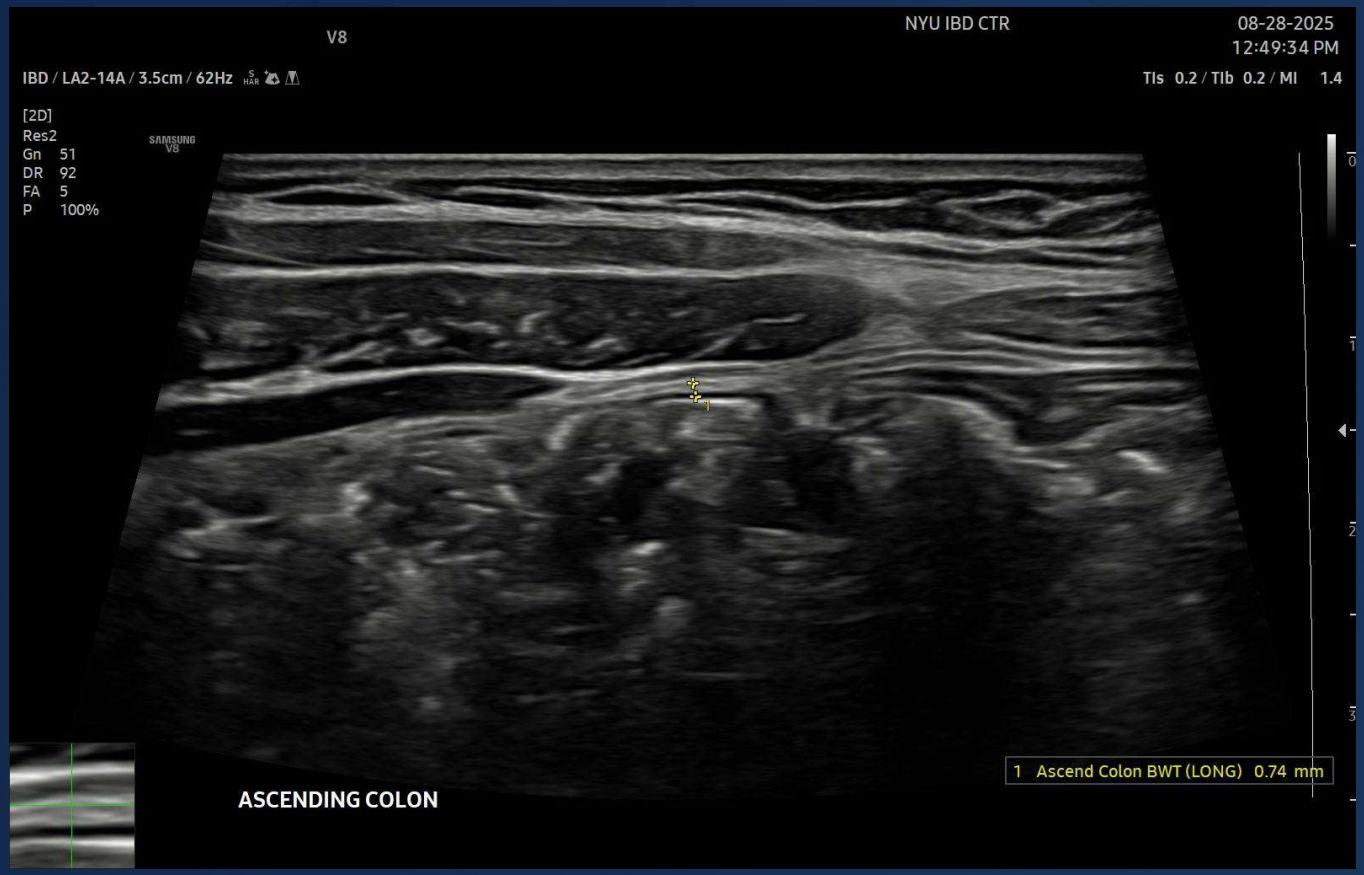

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Case 1: New patient visit – plan

- Discussed steroid-sparing advanced therapy options

- Shared decision with provider, patient, and family to start risankizumab while tapering prednisone

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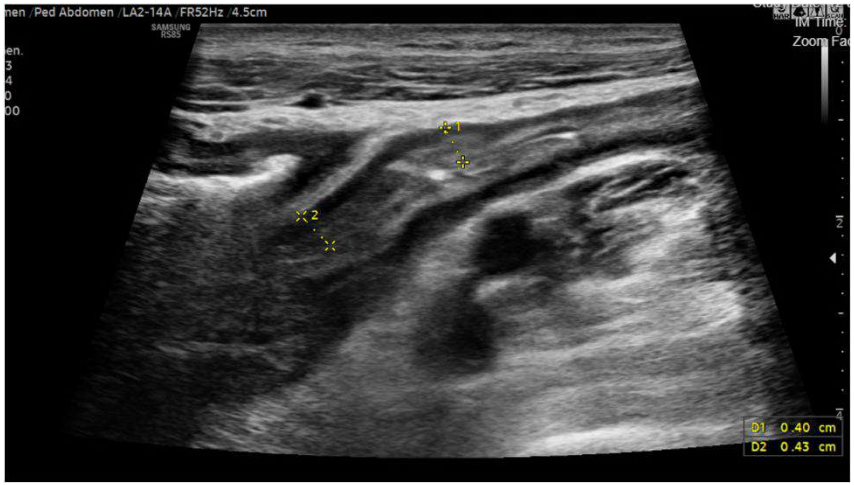
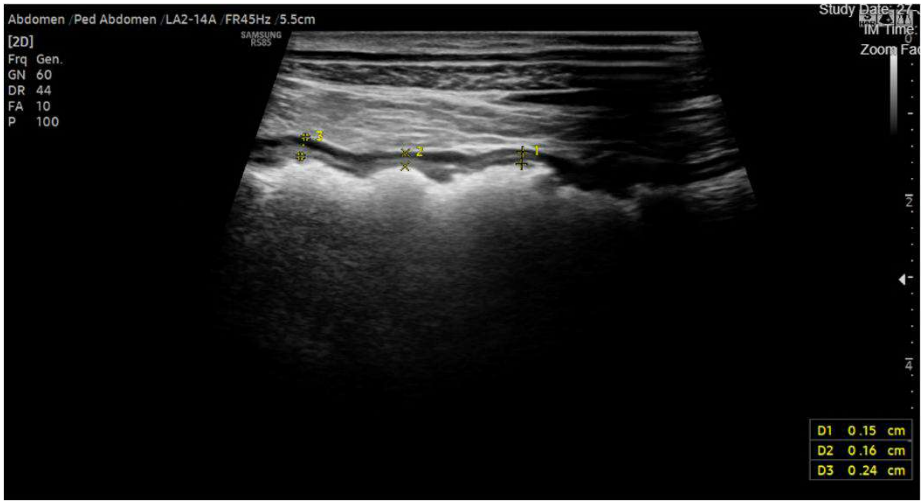
Serial intestinal ultrasounds in acute severe ulcerative colitis



5-weeks later, on upadacitinib



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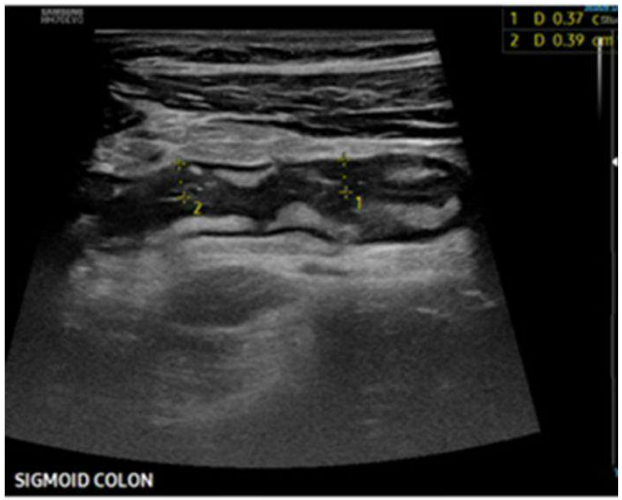
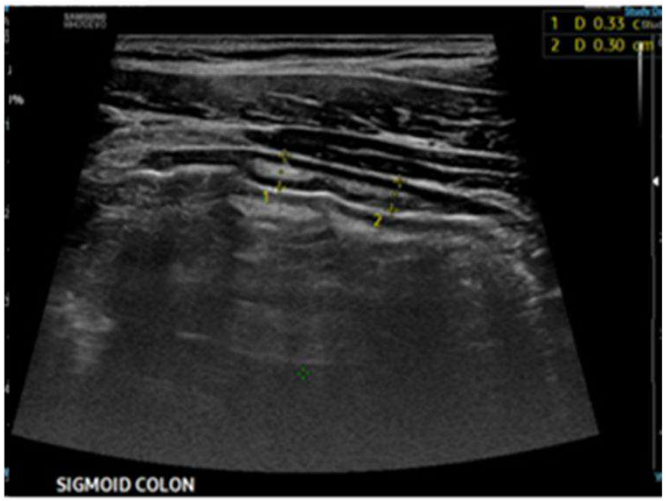
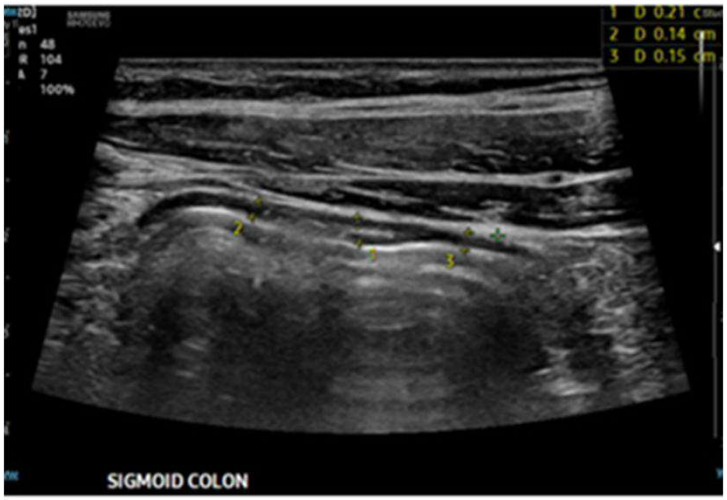
Response in acute severe ulcerative colitis after infliximab initiation



Pre-IFX



Day 1



Day 2

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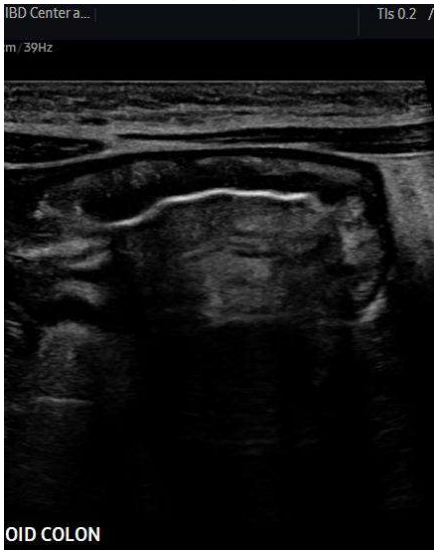
Acute severe ulcerative colitis: 72-hour response to anti-inflammatory therapy

Day 0



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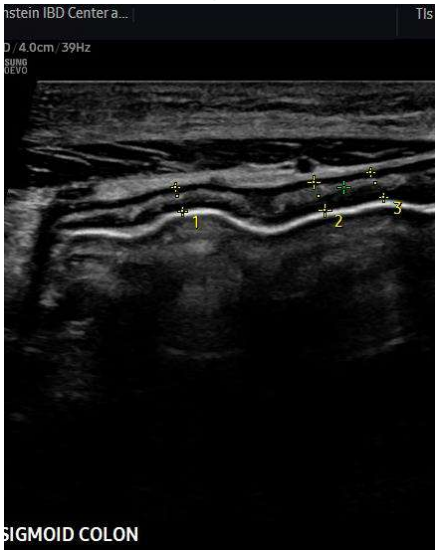
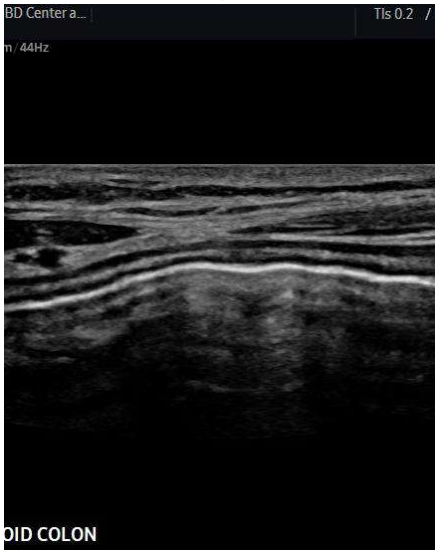


Day 3



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Objectives

- Series of cases that aim to demonstrate various uses of intestinal ultrasound in the diagnosis and management of ulcerative colitis
  - Initial presentation - diagnostic utility
  - **Established patient – persistent symptoms**
  - Established patient – new symptoms
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Case 2: Established ulcerative colitis patient with persistent symptoms

- 37-year-old male diagnosed with left-sided ulcerative colitis three years ago on mesalamine presents in follow up
- Reporting 8 bowel movements daily, 75% with blood
- Two nocturnal bowel movements daily, tenesmus, poor appetite

- Fewer symptoms 1 year ago at time of colonoscopy, which demonstrated Mayo 2 colitis extending from the rectum to the descending colon at 30-cm

- Today:
  - GI PCR panel negative, C. difficile negative
  - Fecal calprotectin pending

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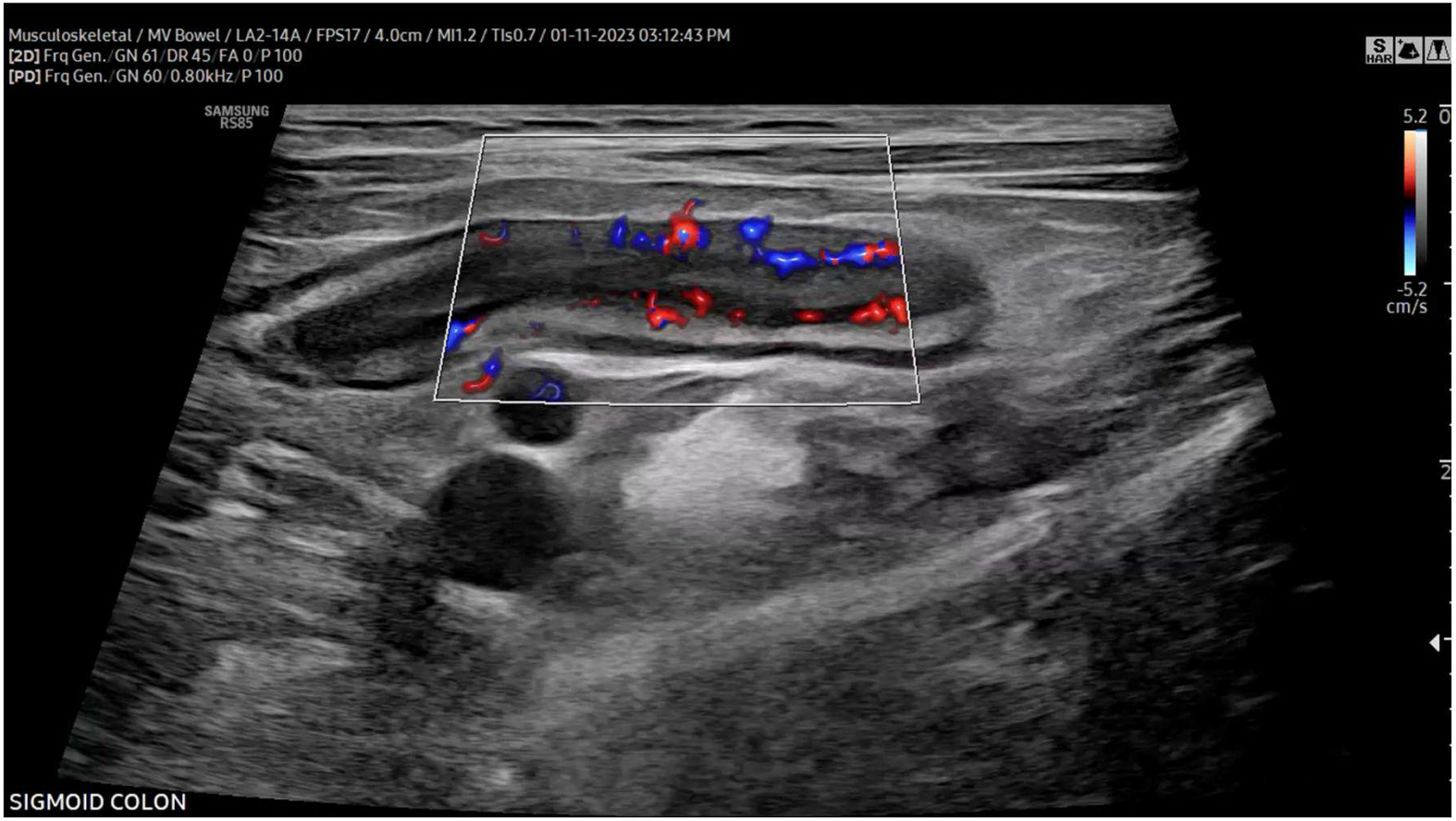
Case 2: What do you see?



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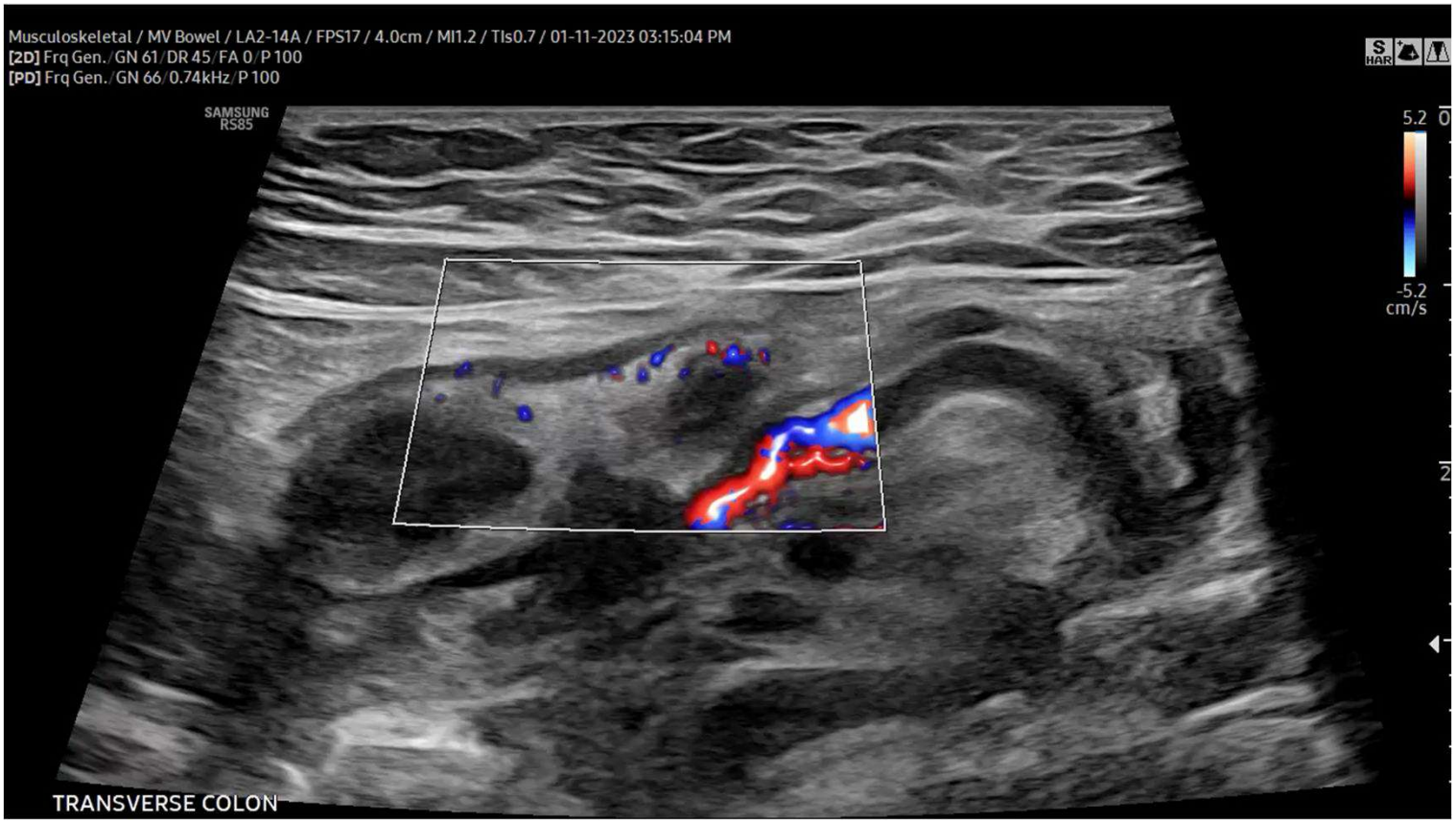

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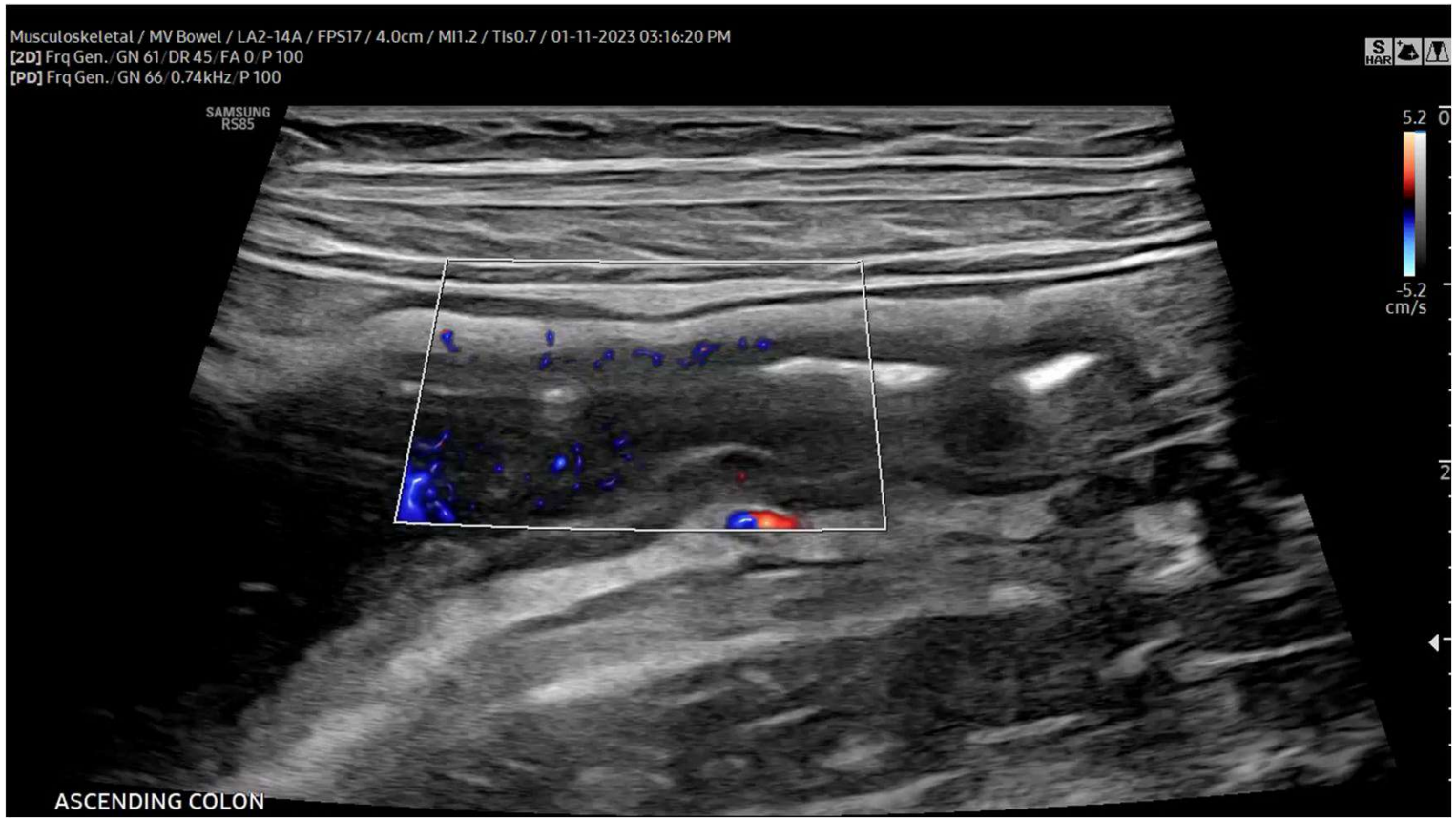

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What new information do you have?

- New information: extension from left-sided to pan-colitis
- Moderate to severe disease activity

What are your next steps?

- Wait for stool calprotectin
- Schedule a colonoscopy
- Switch/adjust therapy

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  - Established patient – persistent symptoms
  - **Established patient – new symptoms**
  - Established patient – no symptoms

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Case 3: Established patient with new symptoms

- 22-year-old female with ulcerative proctitis, diagnosed 5 years prior
- In symptomatic remission using mesalamine suppositories 3x weekly for two years

- Presents to clinic with 2-months of progressive tenesmus, urgency, increased frequency to 3-4 bowel movements daily
- Noticing blood in approximately 50% of bowel movements
- Lower abdominal cramping, intermittent

- No recent blood work or stool studies

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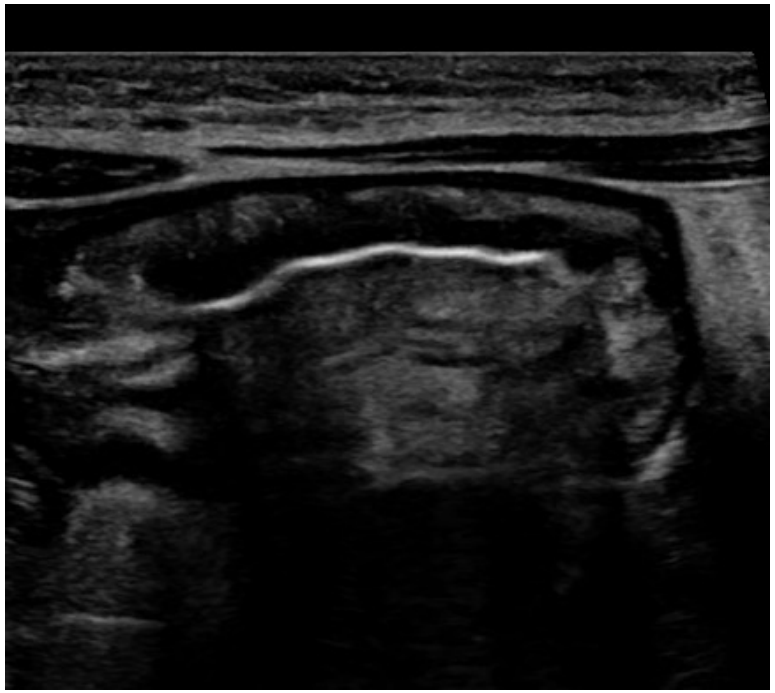
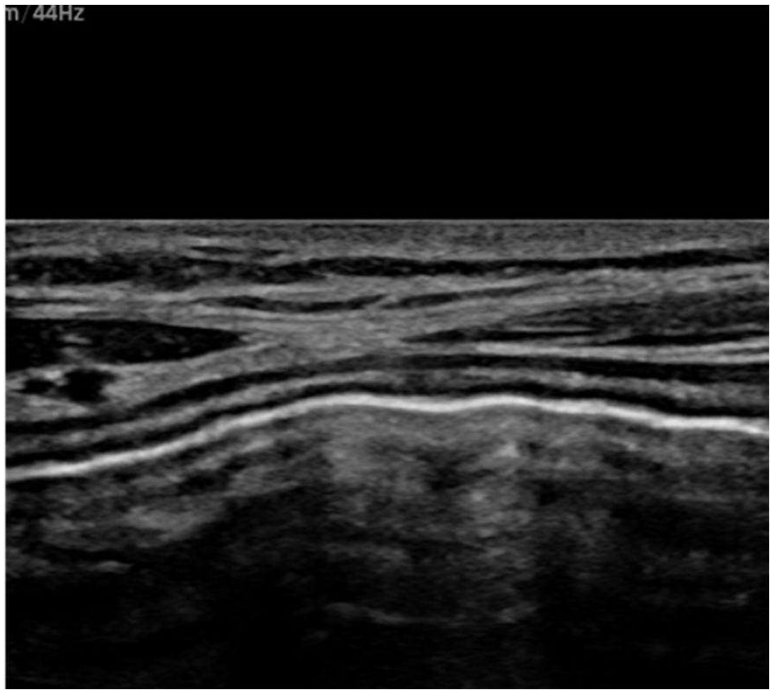
Case 3: Point of care intestinal ultrasound – **two choices** – what is your plan?

Sigmoid colon #1



Sigmoid colon #2



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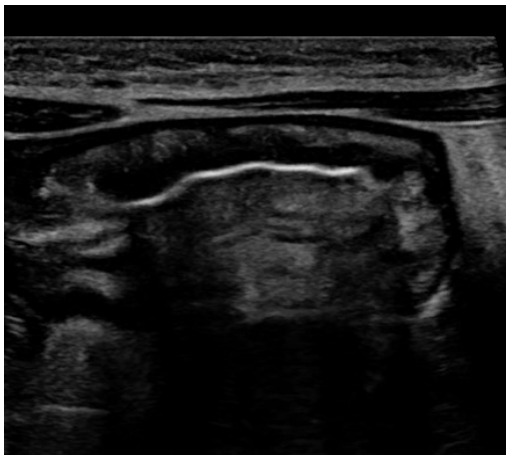
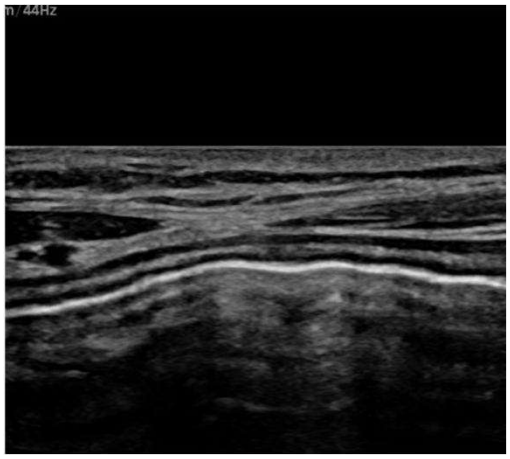
Case 3: Intestinal ultrasound in ulcerative proctitis with new symptoms

Sigmoid colon #1



Concern for extension
Add oral mesalamine, increase rectal therapy
Stool studies
Follow up: IUS / FCP / Colonoscopy

Sigmoid colon #2



High confidence proctitis flare
Increase topical therapy
Stool studies
Follow up: symptoms / FCP

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  - Established patient – persistent symptoms
  - Established patient – new symptoms
  - **Established patient – no symptoms**

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Case 4: Asymptomatic ulcerative colitis patient

- 46-year-old female with pan-ulcerative colitis diagnosed 12 years ago
- In deep remission on vedolizumab 300 mg IV every 8 weeks for the past 8 years
- Presents for routine clinic visit, asymptomatic
  - Formed bowel movements, 1-2 times daily
  - No blood, no urgency, no abdominal pain
  - No fevers, no rigors, no weight loss

- Last colonoscopy 6 months ago was endoscopically normal
- Normal four quadrant surveillance biopsies; no dysplasia

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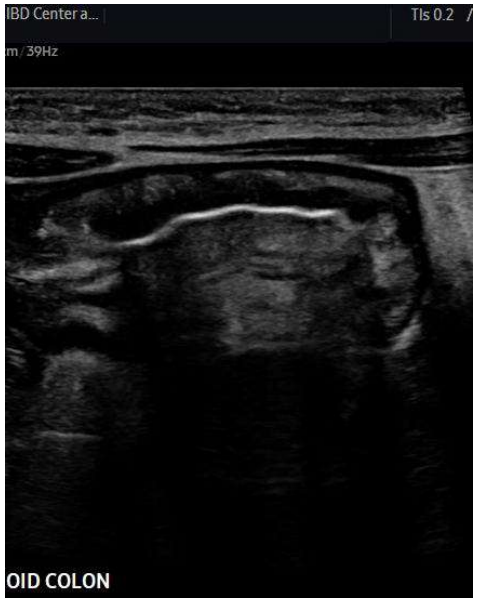
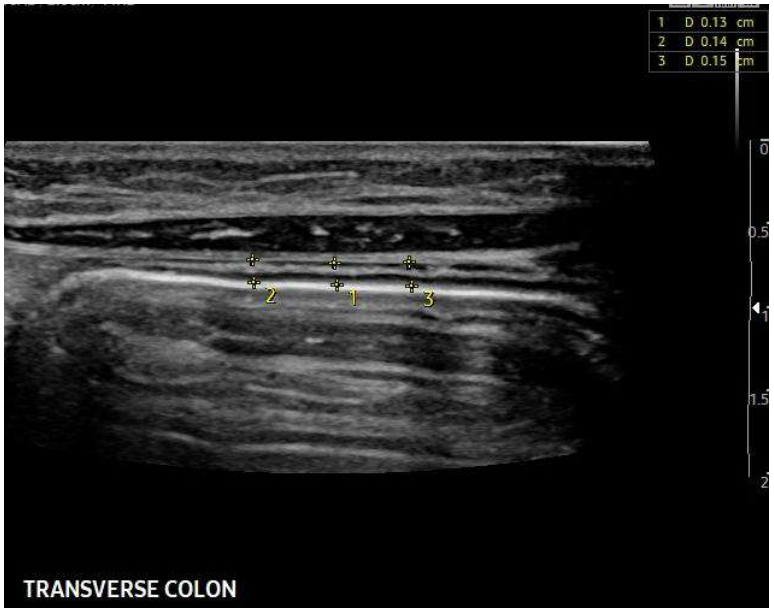
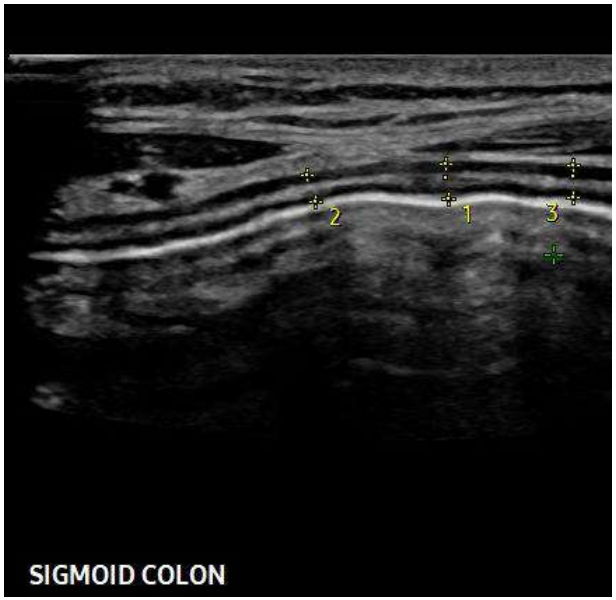
Case 4: Asymptomatic patient in deep remission – two choices!

IUS #1



IUS #2





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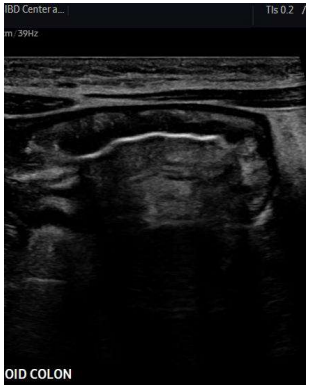
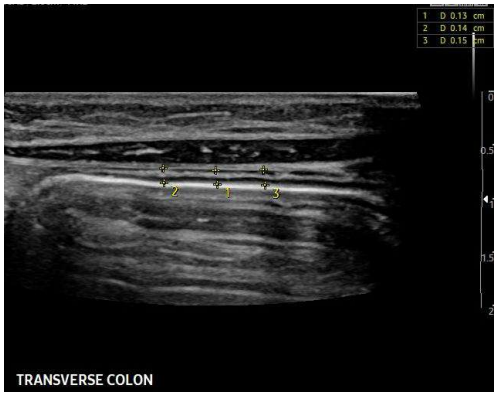
Case 4: Next steps?

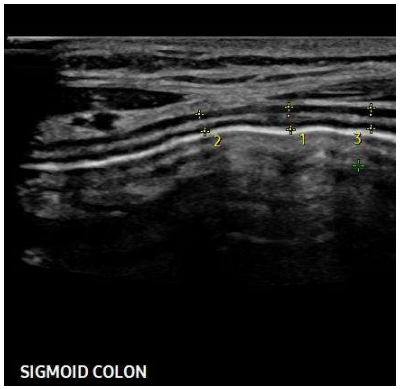
IUS #1



- Colonoscopy?
- Begin conversation about alternative therapy?

IUS #2





- Continue management
- Surveillance as planned
- Disease monitoring plan

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Take Home Points

- Intestinal ultrasound **is** a fantastic diagnostic screening tool for ulcerative colitis

- Intestinal ultrasound **is** a useful tool for evaluating treatment efficacy in ulcerative colitis
  - The hospitalized patient with acute severe ulcerative colitis
  - The outpatient previously in remission with new onset of symptoms
  - The symptomatic outpatient with a recent adjustment in therapy

- Intestinal ultrasound **is** a useful tool for evaluating sustained deep remission

- Intestinal ultrasound is **not** adequate for dysplasia or polyp surveillance

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Acknowledgements

Rishika Chugh, MD and Michael Dolinger, MD (images)
Mentors at IBUS and iUSCAN
University of Calgary staff and colleagues
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Family for supporting my travel and academic pursuits

Questions?