

## CLINICAL VIGNETTE

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# Ischemic Colitis in a Young Patient

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### Case Presentation

A 44-year-old non-pregnant female presented with sudden onset severe abdominal pain. The pain was described as cramping in nature. It initially began in the lower abdomen, and quickly became diffuse within a matter of several hours. The pain made it difficult for the patient to ambulate and was associated with nausea, chills, and sweats. She denied any unusual food intake or change in dietary habits. She denied any recent travel history. Her bowel movements had been normal preceding the onset of abdominal pain, but now had mild constipation and difficulty passing flatus. The remainder of the review of systems was negative. The patient's past medical history was significant for Attention-Deficit/Hyperactivity Disorder (ADHD), treated with amphetamine-dextroamphetamine, and vitamin B12 deficiency, requiring monthly supplementation. Family history was non-contributory. The patient's substance use included cigarettes daily and occasional alcohol, but she denied any illicit drug use.

The physical exam revealed a temperature 98.2°F, blood pressure 137/85 mm Hg, pulse 102 beats per minute, respiratory rate 16 breathes per minute, and O<sub>2</sub> saturation of 98% on room air. The abdomen was soft and non-distended, but with diffuse tenderness. There was no rebound or guarding present. The remainder of the exam was normal. On admission, laboratory evaluation was notable for a white blood cell 17.0 x 10<sup>9</sup>/L. Otherwise routine blood cell counts and chemistry were normal including calcium, liver enzymes, hCG, lipase, and amylase. Urinalysis showed moderate blood with 10-25 hpf of RBC. CT abdomen and pelvis was notable for fluid-filled dilated loops of small bowel proximally concerning for a small bowel obstruction. Pelvic ultrasound was unremarkable.

The patient was admitted, made NPO and provided supportive measures including intravenous fluids and pain medications. Due to the history of new onset constipation, difficulty passing flatus, and imaging concerning for an obstruction, a small bowel follow through x-ray was obtained and was normal. Subsequently, the patient began having bowel movements, but continued to have persistent abdominal pain seemingly out of proportion to the physical exam. Thus, additional studies were obtained including lactate 0.7 mg/dL, erythrocyte sedimentation rate 19 mm/hr, C-Reactive Protein >20 mg/L. Stool studies were negative including fecal leukocytes, culture, and ova and parasites.

On hospital day 2, due to the persistent abdominal pain despite bowel rest and conservative measures, gastroenterology was consulted. Upon further questioning, patient reported recent mucoid stools as well as hematochezia. She denied non-steroidal anti-inflammatory use and had not previously undergone a colonoscopy. Colonoscopy was performed on HD #3 which demonstrated erosions and shallow ulcers in the sigmoid colon. (Figure 1) Biopsies were obtained and were consistent with ischemic colitis.

Gradually, the patient's symptoms improved after HD# 3, with supportive therapy and cessation of tobacco and amphetamine-dextroamphetamine since admission. Post colonoscopy, patient was able to tolerate oral intake with minimal pain thus discharged home with the recommendation for complete tobacco cessation and initiated on a lower dose amphetamine-dextroamphetamine as a taper with close follow up.

### Discussion

This case represents an atypical ischemic colitis found in a younger population related to both tobacco and prescription amphetamine use. Ischemic colitis is defined as an acute and transient compromise in blood flow leading to mucosal injury including inflammation, ulceration, and hemorrhage. Although the "watershed" areas in the splenic flexure (Griffith's point) and sigmoid colon (Sudeck's point) are vulnerable to ischemic colitis, it can occur throughout the large intestine in multiple areas.<sup>1,2</sup>

The average age of presentation is in 6<sup>th</sup> to 7<sup>th</sup> decades of life, frequently with a prior history of atherosclerotic disease. Typical symptoms include abrupt onset of abdominal pain, nausea with vomiting, hematochezia, and leukocytosis. Patients under 50 years of age are at increased risk of if they have predisposing factors such as severe constipation, vasculitis, coagulopathy, aortic aneurysm repairs, illicit as well as prescription drug.<sup>3</sup> It is known that particular drugs can induce ischemic colitis, however few case reports have been published linking ischemic colitis to solely illicit methamphetamine use with no mention of prescription amphetamines. Amphetamines cause an alpha-adrenergic receptor activation leading to vasoconstriction and end organ damage such as ischemic colitis.<sup>4</sup>

ADHD had predominantly been a diagnosis in adolescents and believed to be outgrown at the time of adulthood. However, the persistent nature of the disorder has now led to adult ADHD and an associated increase in treatment.<sup>5</sup> As we see a rise in these diagnoses, there will be a correlating growth in prescription drug use of various stimulants including amphetamine-dextroamphetamine. In our case, we suspect that in the absence of other risk factors, the use of tobacco and amphetamine-dextroamphetamine were contributing factors to development of ischemic colitis.

Management of ischemic colitis involves conservative management as cases are often reversible and can be managed medically.<sup>6</sup> This patient was counseled on tobacco cessation and to taper off her amphetamine-dextroamphetamine with close psychiatric follow up.



Figure 1: Shallow colonic mucosal ulcers within the colon from 20 to 40cm showing focal ulceration and changes consistent with ischemic colitis.

## REFERENCES

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