

IMAGE | SMALL BOWEL

## Cocaine Gut

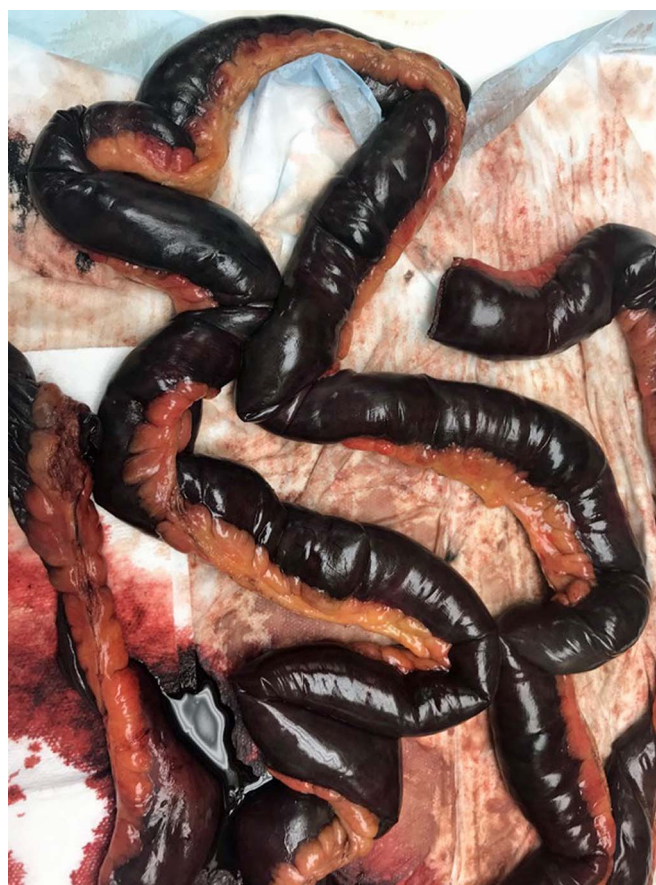
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### CASE REPORT

A 34-year-old man presented to the emergency department with generalized abdominal pain and rectal bleeding. On examination, the patient was hemodynamically unstable and had a diffusely tender abdomen with peritoneal signs. His laboratory test results at presentation were notable for leukocytosis 30.6 K/ $\mu$ L, creatinine 4.23 mg/dL, creatine kinase 6,753 U/L, venous blood gas pH 7.07, and lactate 19 mmol/L. Abdominal computed tomography scan without contrast showed pneumatosis in multiple loops of small bowel, mesenteric, and portal venous gas (Figure 1). Emergent exploratory showed a necrotic and infarcted small bowel (Figure 2). The mesentery was noted to be viable with palpable pulses in the mesentery and superior mesenteric artery trunk. The proximal small bowel was ischemic but not infarcted, and a large extent of the distal small bowel was resected. The colon and stomach were viable.



**Figure 1.** Abdominal computed tomographic image showing small bowel pneumatosis, mesenteric, and portal venous gas.



**Figure 2.** Surgical specimen showing necrotic small bowel.



**Figure 3.** Pathological image showing loss of surface epithelium along with transmural heavy congestion (H&E stain).

Gross examination of the resected bowel specimen showed a smooth, dark red serosa and blood-filled lumen. Histopathology revealed loss of the mucosal epithelium with some remaining crypts, severe edema of the submucosa, and relatively nonaffected muscularis propria along with transmural heavy congestion (Figure 3). The patient's urine toxicology results were positive for cocaine and he later admitted using cocaine a few times before presentation, consistent with diagnosis of cocaine-induced intestinal ischemia. The patient's postoperative course was complicated by bleeding from the small bowel staple line and abdominal wound requiring multiple surgeries and further resection.

Cocaine is one of the most common recreational drugs extracted from the leaves of the *Erythroxylum coca* plant. Cocaine is generally found in white powder form and is typically snorted. Crack cocaine is a lower purity form of free-base cocaine, which is found in a rock form and typically smoked. Cocaine causes bowel ischemia by blocking norepinephrine reuptake in presynaptic nerve endings leading to arterial vasospasm or vasoconstriction. Other potential mechanisms include direct vasoconstriction and platelet aggregation. Cocaine has been associated with an array of

complications involving the upper and lower gastrointestinal tracts with significant morbidity and mortality.<sup>1</sup> Prepyloric and duodenal perforations are the most common gastrointestinal complications produced by cocaine consumption. Other complications include peptic ulcer disease, gastrointestinal bleeding, bowel ischemia, bowel infarction, ischemic colitis, retroperitoneal fibrosis, and pancreatitis.<sup>2</sup> Cocaine-induced ischemic injury can affect any part of the bowel, but usually involves the small intestine, with a predilection for the distal ileum.<sup>3</sup> Early diagnosis and adequate treatment is the key to preventing the potentially devastating effects of cocaine toxicity. Most patients require surgical resection of the gangrenous bowel.<sup>3</sup> Therefore, cocaine-induced intestinal ischemia should be included in the differential diagnosis of patients, especially young healthy adults presenting with abdominal pain and/or rectal bleeding.

## DISCLOSURES

Author contributions: R. Bansal, M. Sharma, and J. Aron wrote the manuscript. R. Bansal is the article guarantor.

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Informed consent was obtained for this case report.

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