His and Hers Hematochezia
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Case Descriptions:

His: A 32 year old previously healthy woman presented to the ED with acute, progressive abdominal pain and bloody diarrhea. Four days prior to admission she and her boyfriend were dining at a fast food restaurant, eating fried chicken, potato salad, and pork sandwich on a bun. The patient also reported consuming methamphetamine. The next day she developed severe, epigastric, crampy abdominal pain, bloody diarrhea, nausea, and anorexia with no relief from antibiotics. ROS negative for fever, chills, or diarrhea, no skin contacts, recent travel, or family history of autoimmune disease or colitis.

**Physical Exam:***
- 12/3/18 10:30 AM: Pulse 112, RR 28, Temp 36.6 °C (98 °F) | BP 112/68 | SpO2 99%
- General: middle aged woman sitting up in bed position in obvious distress
- Cardio: normal, rhythm, apex, no murmurs, no rhonchi, no wheezing, no crackles
- Abdomen: Tender, right upper quadrant, right lower quadrant, positive guaica sign
- Extremities: normal rigidity, no edema or tenderness

**Laboratory:**
- WBC: 8.1 x 10^9/L, 86% neutrophils, 2% lymphocytes, 9% monocytes
- C difficile toxin: negative
- CT abdomen/pelvis: Normal right colon, left colon wall thickening. The wall of the right colon, extending from the cecum to the flexure, is circumferentially thickened to an average diameter of approximately 2.5 cm.

**Hospital Course:** With supportive care of IV fluids, pain medications, anti-nausea, and bowel rest, her blood bowel movements, abdominal pain, and nausea resolved within four days. However, her negative infectious workup and the presence of the possible ischemic colitis led to the diagnosis of methamphetamine induced colitis. As an expostoliumsicolitis was evaluated to rule out for possible inflammatory conditions.

Discussion:

Three cases highlight the poor sensitivity of stool cultures and only through serology were the diagnoses of Shigella and E. coli O157:H7 (STEC) made. Prior to the boyfriends diagnosis, the differential for the first paient included the cases of recent drinking and consuming methamphetamine-induced colitis. Ultimately, our patients did not suffer from the more feared complications of hemolytic uremic syndrome.

**Methamphetamine-Induced Vasculitic Enterocolitis as a Cause of Necrotizing Ileitis:**

Meth-induced necrotizing ileitis is a rare phenomenon, having been reported only four times in the literature. These cases describe patients with severe abdominal pain with or without bloody diarrhea and findings of right-sided colon with suggestive evidence of diffuse thickening of the wall of the colon, one of which was described in this case report. The sympotmogenic stimulatory effects of methamphetamine commonly induce vomiting and diarrhea. Methamphetamine users with severe abdominal pain and bloody diarrhea, bowel ischemia should be considered, especially with topical radiographic findings described above.

The vasocostrictive properties of methamphetamine have been reported to also cause intravascular hemorrhage and necrosis, anorexia, flatulence, perianal vasculitis, and necrotizing colitis.

Testing for Shiga Toxin Producing E. Coli (STEC):

Stool cultures can be unreliable in STEC, as the bacteria are only present in the stool for a few days and may not be detected by culture even when present. In populations of STEC, the greatest yield of stool detection has been found to be within the first 2 days of onset of diarrhea, with a drastic drop in detection rates beyond 7 days from onset of diarrhea. STEC toxins themselves can be tested for with ELISA. This test has a high specificity, but is not specific to E. coli O157 leading to some false positives. Additionally, it does not provide identification of the serotype of E. coli, which is important for determining the causative agent and guiding therapy. Studies of the premier EHEC assay for detection of Shiga toxin 1 and 2: negative

Serologic testing for IgM and anti-lipopolysaccharide antibodies against most frequent STEC serotypes do exist and are lacking in patients with positive stool cultures. However, the sensitivity and specificity of the serologic tests are unclear in populations with negative stool cultures, making their value questionable in a clinical situation such as these.

Learning Points:

- Although colitis can be caused by various bacteria, including Shigella and Escherichia coli, the reported case highlights the importance of considering methamphetamine as a potential cause of intestinal inflammation.
- The case underscores the importance of considering methamphetamine-induced colitis in patients presenting with acute, severe abdominal pain and bloody diarrhea, especially if the stool cultures are negative.
- The serologic testing for Shiga toxin-producing E. coli (STEC) was not positive, highlighting the limitations of this test in populations with negative stool cultures.
- The use of CT imaging in the diagnosis of ischemic colitis was demonstrated, with findings of circumferential wall thickening in the right colon.

References: