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CLINICAL VIGNETTE

A Rare Cause of GI Bleeding in the Adult

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Case Presentation

Patient is a 46-year-old male who presented to the emergency room with acute onset of pressure-like abdominal discomfort followed by hematochezia. He had a similar episode three years ago for which he underwent diagnostic upper endoscopy and colonoscopy without a clear source of gastrointestinal blood loss. His presenting vitals were notable for tachycardia to 117 and a blood pressure of 144/89. His exam revealed tenderness to the right lower quadrant of the abdomen and a rectal exam notable for bright red blood. Computed tomography of the abdomen done in the emergency department was interpreted as normal without evidence of colonic diverticula. He was admitted, and after fluid resuscitation, upper endoscopy and colonoscopy were performed.

His upper endoscopy was normal. His colonoscopy demonstrated red blood throughout the colon and into the terminal ileum where fresh blood was encountered. A tagged red blood cell scan revealed a bleeding source in the right lower quadrant of the abdomen. Based on this results, his CT scan was reassessed and a large diverticulum was noted adjacent to the cecum, measuring 6.8 x 4.5 x 5.6 cm.

He was taken urgently to the operating room where a small bowel diverticulum was resected with pathology demonstrating a Meckel's Type Diverticulum with surface ulceration. His post-operative course was unremarkable, and he has had no recurrent bleeding since discharge.

Discussion

Meckel's diverticulum represents the most common congenital abnormality of the gastrointestinal tract and is commonly described by the rule of 2's (2% of the population, 2:1 male to female, 2% symptomatic, and located within 2 feet of the ileocecal valve). Meckel's diverticula arise from incomplete obliteration of the vitelline duct during embryogenesis.

Though the vast majority of Meckel's diverticula are asymptomatic, those that do present with symptoms can present with several different manifestations. Approximately 25-50% of patients who present with symptoms will do so before the age of 10 with presentation after the age of 50 being exceedingly rare. Meckel's diverticula may present with obstructive symptoms, such as acute abdominal pain, or gastrointestinal bleeding. The former being a common presentation in children, though rare in adults. Meckel's diverticula should be suspected in cases of

intussusception/obstruction in children.¹ It should also be considered in both children and adults under 50 who present with acute onset hematochezia; in particular, those where upper endoscopy and colonoscopy have been unrevealing. Management of a symptomatic diverticulum is surgical resection.

The diagnosis of bleeding from Meckel's diverticula can be made by mesenteric angiography demonstrating an aberrant branch of the superior mesenteric artery feeding the diverticula. Meckel's scan can also identify a subset of diverticula. This is a nuclear medicine study using 99m technetium pertechnetate, which has an affinity for gastric mucosa. This test is often performed with administration of cimetidine, which increases uptake of tracer and can increase study sensitivity. An important limitation of this study is that it will only detect those diverticula containing ectopic gastric tissue, which only represents approximately 25% diverticula. Meckel's scan had a sensitivity of 85-97% in pediatric patients presenting with bleeding; however, in adults, this drops to approximately 60%.² Cases of symptomatic Meckel's diverticula have also been identified using double balloon enteroscopy and video capsule endoscopy, but the sensitivity of these techniques is unclear.

Summary

Meckel's diverticula are commonly asymptomatic, but can present with gastrointestinal bleeding and should be considered in the differential diagnosis, especially when endoscopy and colonoscopy have failed to identify a bleeding source. Diverticula can be diagnosed using nuclear medicine scanning with 99m technetium pertechnetate or by angiography. Symptomatic diverticula should undergo surgical resection.

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