A Rare Cause of Hematemesis in an Infant

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Hematemesis is a rare event in infants. Although some causes of hematemesis in this age group can be relatively benign, serious underlying metabolic, vascular, obstructive, and infectious causes should be considered. We present the case of a 2-month old female with a history of extensive intestinal surgery who presented with hematemesis. Esophageal cytomegalovirus (CMV) infection was diagnosed by endoscopy, which lead to appropriate medical therapy. This case illustrates the need to consider early endoscopy in young infants who present with hematemesis in order to determine an accurate diagnosis.
placed on intravenous pantoprazole and an octreotide drip infusion. She was transfused with packed red blood cells, and was taken to the operating room for endoscopic evaluation.

Upper endoscopy revealed diffuse esophagitis with a large ulcer in the proximal esophagus (Figure 1). Esophageal biopsies revealed loss of surface epithelium and prominent intra-nuclear eosinophilic inclusions suggestive of CMV infection. Subsequent peroxidase-labeled anti-CMV antibody staining demonstrated CMV throughout the esophageal biopsies (Figure 2). The patient was treated with intravenous ganciclovir for 6 weeks although her hematemesis resolved within four days of starting antiviral therapy. The patient was positive for serum CMV by PCR testing although central nervous system testing for CMV by PCR was negative. A work-up for immunodeficiency, including HIV testing, was negative. Neurological imaging for central nervous system CMV disease was negative, and hearing testing was normal. Interestingly, maternal antibody levels for CMV were negative although a lack of CMV antibody production in a mother does not predict subsequent CMV infection in infants (1).

DISCUSSION

Hematemesis in infants can be a medical emergency although most causes do not require a therapeutic endoscopic intervention such as injection, electrocautery, or esophageal variceal band ligation (2). For example, relatively benign lesions such as esophageal mucosal tears (Mallory-Weiss syndrome) and gastric mucosal pressure injuries (prolapse gastropathy) from repetitive vomiting can present with alarming bright red hematemesis in an otherwise healthy child with minimal subsequent clinical sequelae (2,3). Obstructive lesions requiring surgical intervention, such as an antral web or pyloric stenosis can lead to hematemesis in an infant as well (4,5). It also should be remembered that systemic disorders such as sepsis and allergic disease can cause hematemesis (6,7).

CMV is the most common congenital infection in the United States with up to 1% of infants shedding this virus at birth (8). Common presentations of symptomatic, congenital CMV include jaundice, hepatosplenomegaly, microcephaly, and chorioretinitis (9). Gastrointestinal manifestations, such as CMV esophagitis, typically are seen in patients who have immune suppression as seen in AIDS or organ transplantation (8,10). CMV gastrointestinal infections also can occur in patients with genetic causes of immune deficiency, such as common variable immunodeficiency (11). However, CMV esophagitis has been
described in immunocompetent patients with chronic medical conditions (12,13). Intestinal manifestations of CMV disease theoretically could occur in the setting of prematurity as seen in this patient (14). This patient also had a history of congenital short bowel with pyloric atresia and congenital absence of the appendix although these malformations are considered secondary to defects in embryogenesis and not secondary to a congenital CMV infection (15,16).

Treatment of CMV esophagitis includes prolonged therapy with intravenous ganciclovir or oral valganciclovir (17). Anti-viral therapy is necessary to prevent complications of progressive disease, such as esophageal ulcerations, strictures, and esophageal obliteration (18). This case illustrates the need to remember rare causes of hematemesis in infants, especially when an infant presents with ulceration in the esophagus.

References