Case study

Hematemia revealing cytomegalovirus esophagitis in an immunocompetant patient: A case report

Abstract:

Cytomegalovirus (CMV) esophagitis is well-documented in immunocompromised patients. A few studies have described CMV infection in immunocompetent patients diagnosed with a critical illness. However, CMV esophagitis has rarely been documented in immunocompetent hosts. We report a case of CMV esophagitis in an immunocompetent patient who presented with gastrointestinal bleeding that was successfully resolved with valganciclovir treatment. Our case supports observations that CMV esophagitis can cause significant morbidity, regardless of immune system status.

Keywords :

Cytomegalovirus, esophagitis, immunocompetant

Introduction:

Cytomegalovirus (CMV) is a member of the Herpesviridae family. Although immunocompetent individuals can be infected, the serious disease typically only manifests in those with immunocompromised states. CMV can affect many organs, including the eyes, stomach, colon, but the focus of this discussion is on the esophagus. We reported a case of hematemia revealing cytomegalovirus esophagitis in an immunocompetant patient and and to highlight the diagnostic and therapeutic aspects of this rare entity.

Presentation of case:

A 60 years old man with a history of diabetes complicated with retinopathy; high blood pressure and former smoker. He had been taking insulin therapy and amlodipin. He underwent eso-gastroduodenal fibroscopy for melena in 2019, which revealed an ulcer located in the anterior surface of the bulbe treated with proton pump inhibitor. He also underwent right colectomy for colon cancer in January 2020.

The patient was admitted to the emergency department with hematemesis and melena. He also complained of palpitations and dizziness. The patient's vital signs were stable with blood pressure: 130/80 mmhg; heart rate: 82 beats/min; respiration rate: 16/min; and body temperature 37°C. The physical examination revealed a chronically ill-looking man with median laparotomy scar. Laboratory analysis showed normochromic normocytic anemia (Hb=5,6 g/dl), and leukocytosis (10400 cells/mL) with no other abnormalities. He was transfused with 3 red blood celles with control hemoglobin 9,2g/dl. Eso-gastroduodenal fibroscopy revealed severe ulcerative esophagitis and ulcerated bulbo-duodenitis with recent bleeding marks. Biopsy specimens from the esophageal ulcer showed an ulcerated mucosa with an intense polymorphic inflammatory infiltrate. Immunohistochemical staining using the anti-CMV monoclonal antibody was positive, while the patient showed negative results for

CMV antigenemia. The CMV Polymerase Chain Reaction (PCR) on esophageal biopsy was also positive. The serology test was negative for IgM anti CMV with a titer of 0,3 U/ml but positive for IgG anti CMV with a titer of 250U/ml. Complementary study with syphilis screening, serology for human immunodeficiency virus 1 et 2, hepatitis B and C viruses were negative.serology for herpes simplex virus 1 revealed previous infection (IgM negative and IgG positive) and Epstein Barr virus serology was negative. The diagnostic of CMV ilcarative esophagitis was made. The patient was treated with oral valganciclovir 450 mg 2 times a day for 15 days as well as treatment with proton pump inhibitor type omeprazole at a dose of 8 mg per hour by electric syringe pump in the acute phase for 48 hours then 80 mg per day intravenously then orally for 8 weeks. The outcome was favorable with cessation of bleeding and clinical improvement. Endoscopic control carried out 2 months later was normal with total disappearance of the esophageal lesions.

Discussion:

Cytomegalovirus is a common infectious pathogen and the majority of cases are mild symptomatic or asymptomatic [1]. It is a member of the Herpesviridae family of viruses which has the largest genome of any herpes viruses [2].

CMV is often inactive and may exist in a latent stage before becoming reactivated. It may be acquired during the perinatal period or in adulthood through sexual contact [3].

CMV infection is generally infrequent in immunocompetant patients. Although those can be infected, severe disease typically only manifests in immunocompromised status such as AIDS patients, organ transplant recipients and patients on chemotherapy [4]. CMV can affect almost any area of the gastrointestinal tract. CMV esophagitis is the second most common gastrointestinal tract manifestation of the disease, the first being colitis [5]. The most common symptoms of CMV esophagitis are dysphagia, odynophagia and epigastric pain [6]. Other non

specific symptoms include nausea, vomiting, abdominal pain, weight loss and diarrhea [5]. Hematemesis is a rare manifestation of CMV esophagitis compared with CMV gastritis or duodenitis [7, 8]. The endoscopic appearance of CMV esophagitis consisted of multiple well demarcated, vertical or horizontal, superficial linear ulcers at the median to the distal esophagus [9]. Ulcarations can be single or multiple, can be deep resembling cavitation, and have associated features such as mucosal edema and nodularity [10].

There is no pathognomonic endoscopic feature for CMV esophagitis, and definitive diagnosis depends heavily on biopsy findings. Histopathologic diagnosis can be made by identifying CMV inclusion bodies with standard H and E staining, called a cytomegalic cell [3, 11]. The advent of immunohistochemical staining via anti CMV monoclonal antibodies has provided more modalities to help aid in the diagnosis, reaching a sensitivity of 78% to 93% [12].

To date, the mainstay of CMV esophagitis treatment is intravenous Ganciclovir or oral Valganciclovir [13]. In case of resistance to the first line treatment, Foscarnet is an alternative to Ganciclovir. Failure of monotherapy requires an attempt at combined therapy with IV Ganciclovir and IV Foscarnet [3].

Conclusion:

Although hematemia and esophageal ulcers are rare, they should be considered as potential complications accompanying CMV infection in immunocompetent individuals. The administration of symptomatic and antiviral therapy should be considered even when the patient is immunocompetent.

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