Esophageal cytomegalovirus and herpes simplex virus co-infection in an immunocompetent patient: A Case report

ABSTRACT

Infectious esophagitis is a rare disease that usually affects immunocompromised patients. Diagnosis is made by upper endoscopy showing esophagitis and confirmed by histological examination and sometimes PCR on biopsies. We present a case of esophageal cytomegalovirus (CMV) and herpes simplex virus (HSV) co-infection in an immunocompetent patient. The patient is a 50-year-old male with no past history of medical importance. He presented to our department with a recent onset of dysphagia, a fever of 40°C, and chills. Upper endoscopy revealed an erythematous esophageal mucosa and circumferential and confluent superficial ulcers bleeding spontaneously, located mostly in the lower 1/3 of the esophageous. PCR for CMV and HSV on esophageal biopsies was positive, confirming the diagnosis. Primary immune deficiency was excluded. The Human Immunodeficiency Virus (HIV) test was negative. He was treated with ganciclovir and showed clinical improvement. Repeat upper endoscopy after hospital discharge showed complete healing of the esophageal mucosa.

Keywords: Esophageal cytomegalovirus and herpes simplex virus co-infection immunocompetent, CMV PCR, HSV PCR, ganciclovir

1. INTRODUCTION

Infectious esophagitis is a rare disease, representing the second most common cause of oesophagitis after those associated with gastroesophageal reflux, and it usually occurs in immunocompromised patients [1-2]. There are few reported cases of multiple viral infections, and even extremely rare in immunocompetent individuals [17]. We present a case of esophageal cytomegalovirus and herpes simplex virus co-infection occurring in an immunocompetent individual.

2. Case report

A 50-year-old male patient with no past history of medical importance, presenting to our gastroenterology department with dysphagia, high fever at 40°C and chills. Upper endoscopy revealed an erythematous oesophageal mucosa and circumferential and confluent ulcers, predominantly in the lower 1/3, spontaneously bleeding upon (figure 1). Esophageal biopsies were taken and PCR for CMV and HSV on these biopsies were positive at 1.28 log copies, and 366,347 copies/mL respectively. Accordingly, the diagnosis of esophageal (CMV) and (HSV) co-infection was made. CMV serology showed negative anti-CMV IgM antibodies and positive anti-CMV IgG antibodies (>250 IU/ml). HSV serology indicated negative anti-HSV I and II IgM antibodies and positive IgG antibodies. Human Immunodeficiency Virus (HIV) testing was negative. The level of immunoglobulins and lymphocyte were normal ruling out primary immune deficiency. The patient was treated with ganciclovir at 5 mg/kg/12h for 21 days. He was treated with ganciclovir and showed clinical improvement. Repeat upper endoscopy after hospital discharge showed complete healing of esophageal mucosa.

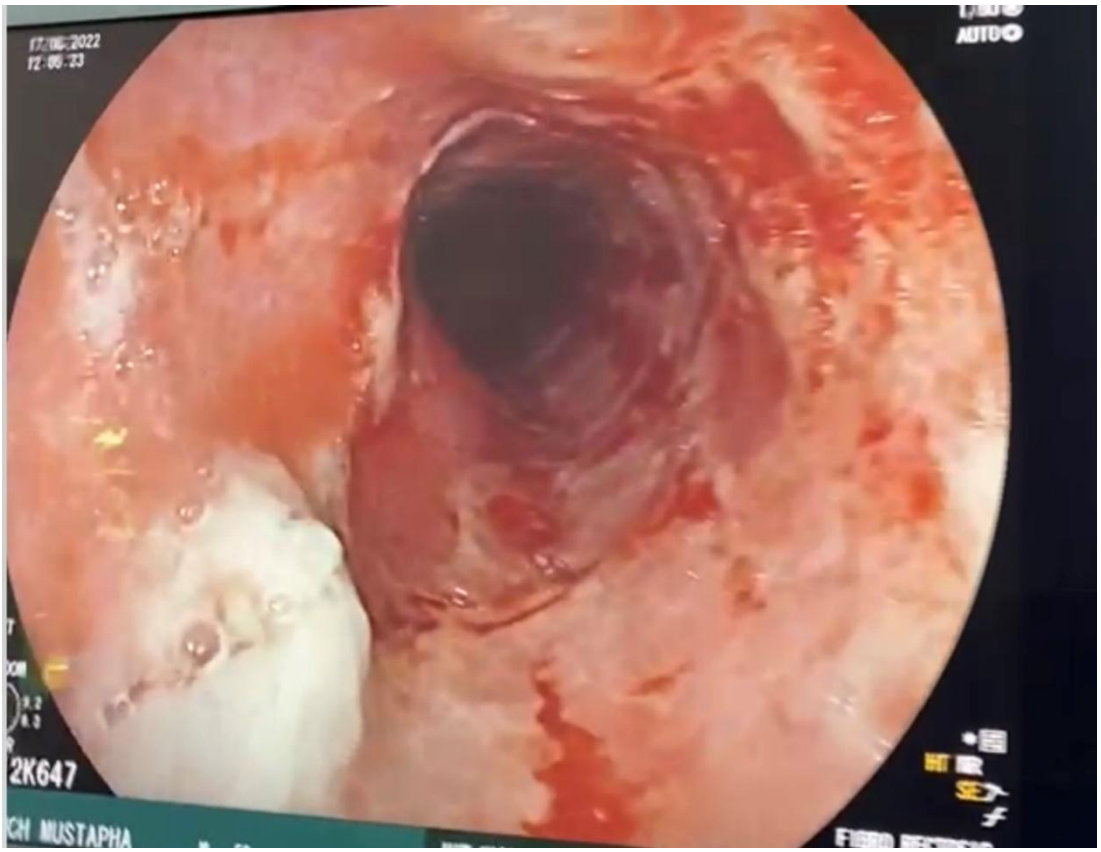

Figure 1: Erythematous Oesophageal Mucosa, characterized by Circumferential and Confluent Ulcers

3. DISCUSSION

Viral co- infection of the oesophagus is exceedingly rare. In the literature, we found 15 cases of esophageal CMV and HSV co-infection [3]. All these patients were recipients of immunosuppressive transplants or had acquired immunodeficiency syndrome [4-5-6]. In our patient, negative HIV test and normal level of immunoglobulins and lymphocyte ruled out immune deficiency.

Clinically, patients with viral esophagitis present by dysphagia, odynophagia and fever, but they can also be associated with epigastric pain, as in our case [7-8-9].

Ulceration due to CMV and/or HSV can be seen by upper endoscopy, typically appearing as well-defined ulcers located in the middle and lower thirds of the oesophagus [10]. A definitive diagnosis relies on multiple deep biopsies taken from the edges of the ulcer for microbiological and histopathological analysis. Microbiological analysis (immunohistochemistry and PCR searching for CMV and HSV antigens on biopsy fragments) is crucial. According to several authors [7-11-12-13-14], the presence of large cells with nuclear inclusions in fibroblasts and endothelial cells in the histology of oesophageal ulcer biopsies is sufficient to confirm cytomegalovirus infection. In our patient, CMV and HSV PCR on esophageal biopsies confirmed the diagnosis of co-infection esophagitis.

Treatment recommendations for CMV/HSV infection involves oral administration of valganciclovir for mild conditions and intravenous ganciclovir for severe conditions [15-16]. The duration of treatment depends on the resolution of all symptoms and the absence of virus detection by polymerase chain reaction (PCR) in two consecutive blood samples within a week [15]. Our patient received ganciclovir at 5 mg/kg/12h for 21 days, with good clinical and endoscopic outcome

4. CONCLUSION

The diagnosis of herpetic and/or CMV oesophagitis should be considered in any patient presenting with dysphagia without an apparent cause, including immunocompetent individuals.

Ethical Approval:

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

Consent

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

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