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Herpes Esophagitis in an Immunocompetent Teenager

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Abstract

Herpes simplex virus (HSV) esophagitis is a rare infection in the immunocompromised host making it an even more rare condition in the immunocompetent population. Herpes esophagitis usually presents with the constellation of symptoms of odynophagia, dysphagia, fever and retrosternal chest pain. When immunocompetent patients present with odynophagia, the most common etiologies include pill induced esophagitis, toxic ingestion or severe reflux esophagitis. Rarely is infectious esophagitis from HSV, cytomegalovirus or candida considered. HSV is the most common cause of esophagitis typically from a reactivation of prior infection. In very rare cases does it present as a primary infection in the esophagus. We describe a case of HSV esophagitis in an 18-year-old immunocompetent host with no significant past medical history. He presented to his primary care physician with complaints of odynophagia and was prescribed a course of amoxicillin and prednisone syrup. He presented 4 days later to the emergency room with worsening odynophagia, retrosternal chest pain and anorexia. He was evaluated by the gastroenterology team and was taken for esophagogastroduodenoscopy (EGD), which revealed diffuse, bleeding, superficial ulcerations along the entirety of his esophagus. Biopsies were taken and subsequently found to be HSV positive. The patient was treated with intravenous acyclovir, a proton pump inhibitor and sucralfate suspension. HIV was tested and was found to be negative. No other causes of immunosuppression were found. We believe the patients' initial presentation was in fact a primary infection of HSV esophagitis, which was exacerbated by his oral prednisone use. The purpose of this report was to highlight the rare occurrence of infectious esophagitis with HSV possibly worsened by oral prednisone use in an otherwise healthy, young individual. Also, this report should raise awareness of clinicians to diagnose HSV esophagitis and begin prompt treatment on such patients. EGD with biopsy is the gold standard diagnostic modality for HSV esophagitis and should always be considered in young patients who present with odynophagia even in the absence of other alarm features. There is often a typical mucosal appearance with superficial, well-demarcated, small ulcerations along the mid to distal esophagus. The treatment of choice for HSV esophagitis is acyclovir 5 mg/kg every 8 hours for 7 - 14 days. Symptoms for most immunocompetent patients resolve spontaneously in about 1 - 2 weeks. In confirmed cases of HSV esophagitis, it is important to reassess the patient for any underlying immunodeficiencies. Although rare, HSV esophagitis should be entertained especially given the correct constellation of history and symptoms.

Keywords: Herpes simplex virus; Esophagitis; Immunocompetent; Endoscopy; EGD

Introduction

Herpes simplex virus (HSV) can be seen as a cause of esophagitis in the immunocompromised host. Individuals who develop HSV esophagitis are usually severely immunocompromised such as those with HIV-AIDS, underlying malignancies, extensive systemic corticosteroid use, transplant recipients or burn victims. It is rarely seen in immunocompetent hosts and usually represents reactivation of the HSV. It is exceedingly rare for a healthy individual without exposure to systemic corticosteroids to develop a primary HSV infection of the esophagus. Here, we describe a healthy, young male on no immunosuppressive drugs presenting with severe HSV esophagitis.

Case Report

This is the case of a healthy 18-year-old male who presented to the emergency department with severely painful swallowing, retrosternal chest pain and anorexia for 4 days. The patient had otherwise been in his usual state of good health when he suddenly developed a sore throat, fever and mild odynophagia. Our patient denied any inciting illness, no viral syndrome and no cough leading up to the event. The patient was initially seen by his primary care physician and was subsequently prescribed amoxicillin and oral prednisone syrup. Despite this treatment, he noted worsening odynophagia accompanied by a fever at

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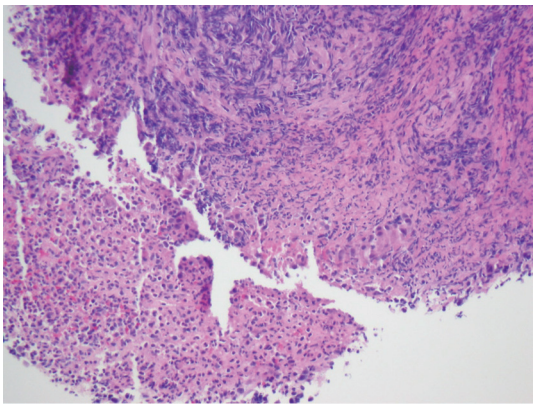

Figure 1. Superficial mucosal bleeding and ulcerations.

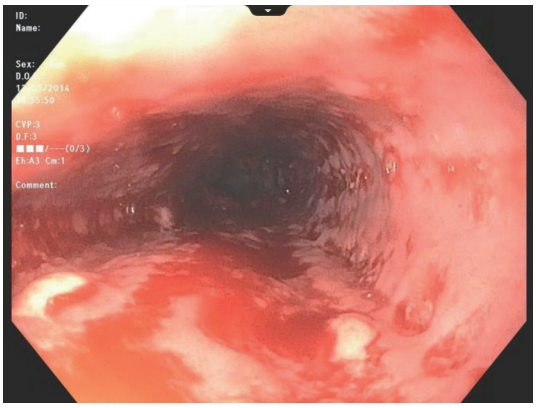

Figure 3. Superficial ulcerations.

home and severe retrosternal chest pain. The symptoms became so severe that the patient was no longer able to tolerate oral intake of either liquids or solids prompting his ED visit.

The physical exam was completely normal, except for some erythema of the posterior pharynx. No oral mucosal ulcers or genital lesions were seen. Routine labs, chest X-ray and an EKG were all normal.

The gastroenterology team evaluated the patient and an upper endoscopy was performed. The endoscopy revealed severe, superficial mucosal bleeding and ulcerations along the entirety of his esophagus, most prominently in the mid to distal esophagus (Fig. 1). The ulcerations had sharply defined borders with normal intervening mucosa concerning for severe HSV esophagitis (Fig. 2, 3). Esophageal biopsies of the multiple lesions were sent to pathology for evaluation. Histology of the specimens showed ulcerated and denuded esophageal squamous epithelium (Fig. 4). No viral inclusions were seen on H&E or IP stain (Fig. 4, 5); however, serum testing for HSV 1 was positive by PCR. Fungal stain was also negative.

The patient was promptly started on IV acyclovir, sucralfate suspension, viscous lidocaine and pantoprazole suspension. From day two of admission, the patient quite drastically began to symptomatically improve and was discharged with instructions to complete his course of oral acyclovir and to follow up in GI clinic.

Discussion

The most common symptoms of herpes esophagitis consist of odynophagia, dysphagia, fever and retrosternal chest pain [1]. The disease is usually mildly symptomatic and self-limited in the immunocompetent hosts making the diagnosis difficult [2-4]. The diagnosis of herpes esophagitis is made via endoscopy [5, 6], which presents with vesicles and volcano ulcers that may give way to diffuse superficial ulcers. During endoscopy the margins of the ulcerations should be biopsied and brushed for histology as well as histochemical staining. Characteristic findings in these cases consist of ballooning degeneration, ground glass nuclei, multinucleated giant cells and eosinophilic nuclear inclusions [5].

Intravenous acyclovir remains the treatment of choice for herpes esophagitis usually dosed at 5 mg/kg/day. However oral acyclovir can also be used but may not be feasible due to dysphagia and odynophagia.

Herpes esophagitis is a rarity among the immunocompetent patients. Systemic steroids are a well-known risk factor

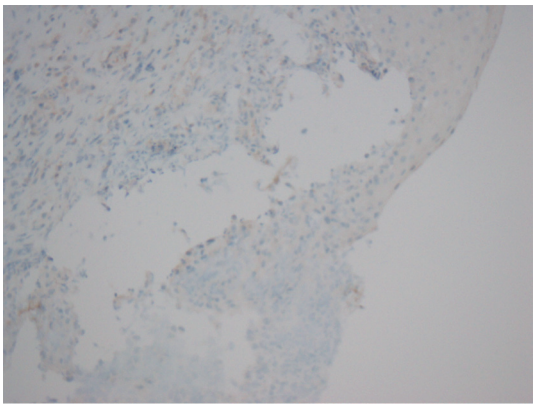

Figure 2. Ulcerations with sharply defined borders with normal intervening mucosa.

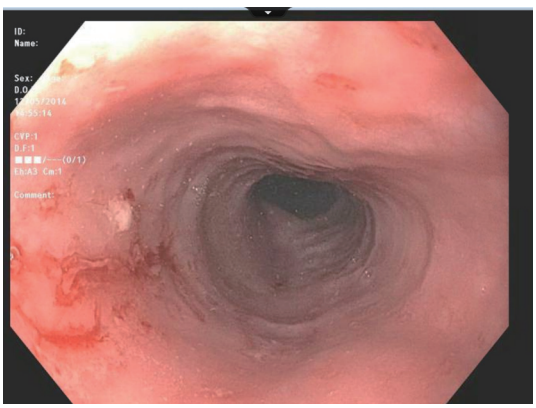

Figure 4. Ulcerated esophageal mucosa with overlying exudate (no HSV inclusions found).

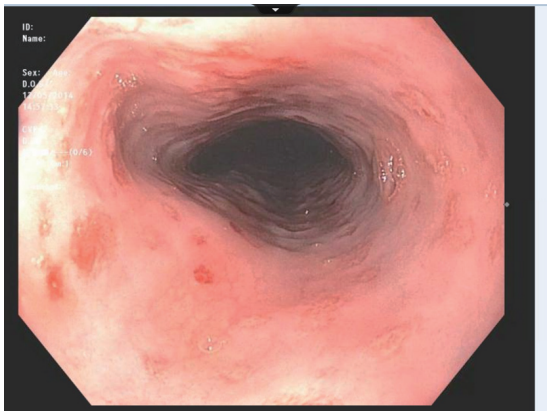

Figure 5. Normal squamous epithelium and adjacent ulceration.

for development or progression of HSV esophagitis by depressing the cellular immunity of the esophagus. Oral steroids could contribute in much the same way.

In our review of the literature, we found multiple cases of herpes esophagitis in patients receiving immunosuppression; however, we were unable to find any reported cases of oral steroids possibly exacerbating the severity of herpes esophagitis. This unique case would be the first documented presentation of oral steroids contributing to the proliferation of severely symptomatic herpes esophagitis.

Conclusion

HSV esophagitis is a rare diagnosis for immunosuppressed patients who present with odynophagia and extremely rare in immunocompetent patients. An astute clinician should always gather a detailed history to exclude the possibility of an underlying immunological disorder or concomitant infection with HIV. EGD with biopsy should always be considered in patients presenting with odynophagia even in the absence of other alarm features. Treatment should be initiated promptly following the EGD to expedite resolution of symptoms in a healthy individual. With this case report we hope to inspire future studies to evaluate this confounding situation.

Conflict of Interest

No author involved in this case report has any conflict of interest to report.

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