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Case Report Open Access

A Case of Herpes Simplex Virus Esophagitis

Nobuhiro Takeuchi*, Tetsuo Maeda, Ryota Aoki, Sayuri Tanaka, Yu Nishida, Yusuke Nomura and Hidetoshi Tada

Department of Gastroenterology, Kawasaki Hospital, Kobe, Japan

Abstract

An 80-year old woman presented to our institution with severe odynophagia. Gastroendoscopy revealed the presence of multiple small, oval ulcers, some of them agglutinated, from the oral cavity to the gastro-esophageal junction. Histopathological analysis of a biopsy specimen of the ulcer margin revealed degenerative epithelial cells with intranuclear eosinophilic inclusion bodies and multinucleated epithelial giant cells. Therefore, HSV esophagitis was suspected, and valacyclovir was administered for 6 days. Two days later, the symptoms resolved. Subsequently, the patient was revealed positive for serum HSV-1 IgM and IgG as well as anti-HSV-antibody by immunohistochemical analysis, confirming the diagnosis of HSV esophagitis. Gastroendoscopy performed 10 days after the treatment revealed the total disappearance of the esophageal lesions. The patient was discharged on 22 days after admission.

Introduction

Herpes simplex virus (HSV) esophagitis is presented with its characteristic endoscopic findings, including small, oval, punched-out ulcers with shallow geographic coverage. We here present a case of HSV esophagitis that was presented with its characteristic features.

Case Presentation

An 80-year old woman presented to our institution with severe odynophagia. Her medical past history included allergic bronchitis, treated with oral prednisolone at 15 mg/day for about two years, and diabetes mellitus. The patient denied the habit of alcohol or the use of tobacco. On admission, the patient's blood pressure was 115/67 mmHg, heart rate was 78 beats/min, body temperature was 37.0°C, and oxygen saturation was 99% in room air. On clinical examination, her weight was 46.0 kg, height was 150cm and body mass index was 20.4 kg/m^2. Mild anemia was seen on examination of his palpebral conjunctiva. Chest auscultation revealed no abnormal findings. The abdomen was soft and flat with normal bowel sounds. No lymph nodes were palpable. Blood chemistry analyses (Table 1) revealed elevated white blood cell counts (12,200/μL), mild anemia (red blood cell counts; 308×10^4/μL, hemoglobin level; 9.0 g/dL), increased C-reactive protein levels (6.5 g/dL), mild hypoproteinemia (5.2 g/dL), mild hypoalbuminemia (3.1 g/dL), mildly increased creatinine levels (1.91 mg/dL), elevated urea nitrogen levels (34.5 mg/dL), elevated glucose levels (176 mg/dL), and elevated HbA1c (7.3%). Abdominal radiography revealed normal gas distribution. Gastroendoscopy revealed the presence of multiple small, oval ulcers, some of them agglutinated, from the oral cavity to the gastro-esophageal junction (Figure 1). Histopathological analysis of a biopsy specimen of the ulcer margin revealed degenerative epithelial cells with intranuclear eosinophilic inclusion bodies and multinucleated epithelial giant cells (Figure 2). Therefore, HSV esophagitis was suspected. Gastroendoscopy revealed no white moss in the esophagus; moreover, the biopsy specimen of the ulcer margin revealed no evidence of mycelia in the epithelium. Therefore, the complication of esophageal candidiasis was considered to be excluded. Thereafter, valacyclovir was administered for 6 days (1500 mg/day for 4 days and 500 mg per/day for 2 days). Two days later, the symptoms resolved. Subsequently, the patient was revealed positive for serum HSV-1 IgM and IgG as well as anti-HSV-antibody by immunohistochemical analysis, confirming the diagnosis of HSV esophagitis (Figure 3). Gastroendoscopy performed 10 days after the treatment revealed the total disappearance of the esophageal lesions. At this time, biopsy specimens of the mucosa tested negative for anti-HSV-antibody. Moreover, serum HSV-1 IgM was negative. The patient was discharged on 22 days after admission.

Hematology		Biochemistry	
WBC	12,200/μl	TP	5.2g/dl
RBC	308×10^4/μl	Alb	3.1g/dl
Hb	9.0g/dl	T- Bil	0.3mg/dl
Ht	26.6%	γ-gtp	26IU/l
MCV	86.4fl	ALP	297IU/l
PLT	13.2×10^4/μl	AST	251IU/l
		ALT	30IU/l
Coagulation		LDH	281IU/l
PT	77%	BUN	34.5mg/dl
APTT	31.4sec	Cr	1.91mg/dl
		CPK	14IU/l
Serology		Na	143mEq/l
CRP	6.5mg/dl	K	4.4mEq/l
		Cl	108mEq/l

Table 1: Laboratory data on admission.

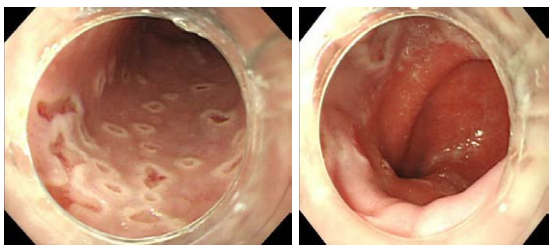

Figure 1: Gastroendoscopic findings revealed the presence of multiple small, oval ulcers, some of them agglutinated (a; mid-esophagus, b; gastro-esophageal junction).

***Corresponding author:** Nobuhiro Takeuchi ,3-3-1, Higashiyama-cho, Kobe, Hyogo - 652-0042, Japan, Tel: +81-78-511-3131; Fax: +81-78-511-3138; E-mail: takeuchi_nobuhiro@kawasaki-hospital-kobe.or.jp

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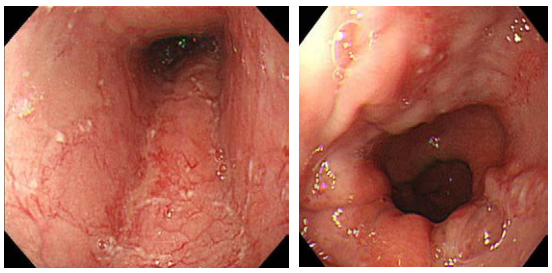

Figure 2: Gastroendoscopic findings performed10 days after the treatment revealed the complete disappearance of lesions (a; mid-esophagus, b; gastro-esophageal junction).

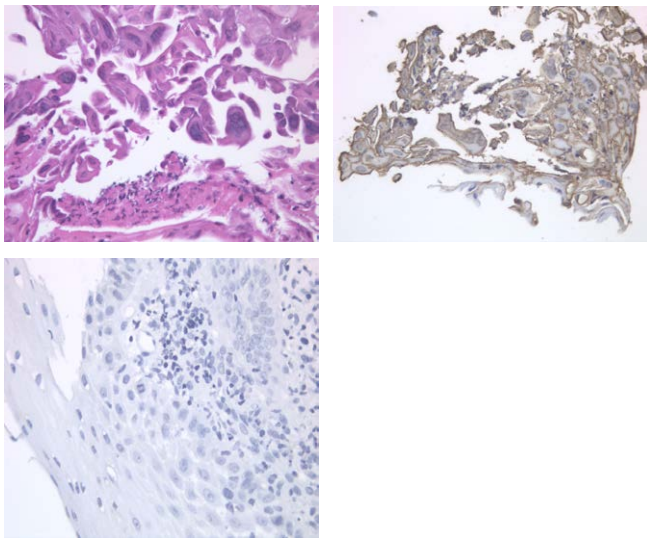

Figure 3: Histopathological findings reveal degenerative epithelial cells with intranuclear eosinophilic inclusion bodies and multinucleated epithelial giant cells (a) (hematoxilin and eosin, high power field). Immunohistochemical analysis of biopsy specimen reveals positive for anti-HSV-antibody on day admission (b) and negative for anti-HSV-antibody on 10 days after admission (after the treatment with valacyclovir) (c).

Discussion

Although HSV is latently infected in the trigeminal nerves, HSV is sometimes secreted into the saliva by some cause. HSV esophagitis occurs as a result of the infection of HSV-1 or -2 which is secreted into the esophageal mucosa through saliva. Typically, HSV esophagitis affects immunocompromised patients, including those with malignancy, radiation therapy, steroid intake, and acquired immune deficiency syndrome; although HSV esophagitis rarely affects immunocompetent patients [1]. The most common clinical manifestations of HSV esophagitis were reported odynophagia (60.7%), fever (51.8%), and retrosternal chest pain (46.4%) [1]. Gastroendoscopic findings are essential to the diagnosis of HSV esophagitis: small, oval, punched-out ulcers with shallow geographic coverage are characteristics of HSV esophagitis [2]. Biopsy specimens sometimes reveal characteristic intranuclear eosinophilic inclusion bodies [3]. Further, positive serum HSV IgM and anti-HSV antibody staining of biopsy specimens support the diagnosis [4]. In many cases, HSV esophagitis improves naturally within 2 weeks without any treatment. In case of immunocompetent patients, it is recommended to be provided with palliative therapy [5]. On the other hand, in case of immunocompromised patients, it is recommended to be treated with antivirus agents in order to prevent fatal conditions, including bleeding, mucosal necrosis, pneumonia, and bronchoesophageal fistula. However, both immunocompromised patients and immunocompetent patients with severe symptoms should be treated with antivirus drugs, which will immediately alleviate symptoms, before the results of histological or serological examinations are confirmed [5]. In this case, since the patient was considered to be in a relatively immunosuppressive condition presented with severe symptoms, immediate treatment with valacyclovir was initiated.

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