Giant Esophageal Ulcers in a Patient with Human Immunodeficiency Virus

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Question: A 56-year-old man presented with retrosternal pain for 2 months. Chest plain film, electrocardiogram, and cardiac-specific markers were normal. Upper endoscopy showed two huge longitudinal ulcerative lesions (about 20×10 mm and 15×10 mm in size, respectively) at the middle to distal part of the esophagus (Fig. 1). Other laboratory findings revealed mild pancytopenia and mild derangement of liver function tests. Serum human immunodeficiency virus (HIV) antibody and HIV antigen test were positive. His HIV RNA copies numbered 667,490 copies/mL, and CD4⁺ T-lymphocyte count was 46 cells/ μ L.

What is the most likely diagnosis?

Answer: Endoscopic biopsy revealed ulcer-related granulation tissue with multiple viral inclusions (Fig. 2A). In addition, positive immunoreaction with cytomegalovi-

rus (CMV) was identified in immunohistochemical (IHC) staining (Fig. 2B). Although his CMV immunoglobulin (Ig)M antibody was negative, CMV IgG antibody was positive and CMV real-time PCR showed 229 copies/mL. Therefore, we diagnosed the patients with giant esophageal ulcers due to CMV infection in acquired immunodeficiency syndrome (AIDS). The patient started treatment with valganciclovir and co-formulation elvitegravir, cobicistat, tenofovir disoproxil fumarate, and emtricitabine (Stribild®).

Esophageal ulcer is an important comorbidity in AIDS patients. HIV attacks CD4⁺ T lymphocytes and causes damage to the gut barrier function. Prospective studies reported that the prevalence of esophageal ulcer is about 30~40% in patients with HIV infection who live in a pre-highly active antiretroviral therapy area.^{1,2} Generally, CMV, herpes simplex virus (HSV), and candida are re-

Fig. 1. Endoscopic findings. The upper endoscopy shows two longitudinal, well-demarcated, deep ulcers, about 20×10 mm and 15×10 mm in size, in the middle to distal part of the esophagus. (A) General view. (B) Close-up view.

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Fig. 2. (A) Histopathologically, endoscopic biopsy shows characteristic “owl’s-eye” intranuclear viral inclusions (large amphophilic to basophilic body surrounded by a halo, arrows) within the ulcer base (H&E, ×400). (B) Positive immunoreaction with cytomegalovirus is verified in the immunohistochemical staining (immunohistochemical stain, ×400).

garded as the main causes of esophageal ulcer in patients with AIDS.³ In this case, we identified CMV infection at the giant esophagus ulcers.

There has been no specific agent verified in a subset of AIDS patients with esophageal ulcer in clinical practice. In such cases, this ulcer is denominated as idiopathic esophageal ulcer.¹ Wilcox et al.¹ reported that the proportions of idiopathic esophageal ulcers, 40%; esophageal ulcers with CMV, 45%; and esophageal ulcers with HSV were 5% in 100 AIDS patients with esophageal ulcer, respectively. A recent study revealed that HIV infection itself could be related with giant idiopathic esophageal ulcers in AIDS patients.⁴ In terms of endoscopic findings, it is difficult to differentiate esophageal ulcer caused by CMV and idiopathic esophageal ulcer. Therefore, upper endoscopy with biopsy is important to identify the causes of esophageal ulcer and histopathologic analyses including

IHC tests are mandatory.

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