

A case report

Does the ulcer belong to esophageal carcinoma or HIV?

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Abstract

Rationale: The deep-rooted pathogenesis of the human papilloma virus (HPV) infection is still uncertain and argumentative. As we know, a lot of cases of esophageal infections, such as esophageal squamous cell carcinoma (ESCC) and esophageal squamous papilloma (ESP), associated with HPV are reported. However, primary esophageal ulcer infection associated with HPV is unusual.

Patient concerns: This case is different from the other reports associated with HPV due to the patient's favorable prognosis.

Diagnoses: We present a case of a man diagnosed in the Gastroenterology Department of Tianjin Hospital of Integrated Traditional Chinese and Western Medicine, which presented a deep and big esophageal ulcer with irregular borders caused by type 16 HPV infection.

Interventions: The esophageal ulcer was treated with vidarabine monophosphate treatment.

Outcome: The esophageal ulcer was cured.

Lessons: We could put forward the diagnostic criteria available for diagnostic guidelines and 2 hypotheses that could possibly prevent esophageal carcinoma from happening.

Abbreviations: ESCC = esophageal squamous cell carcinoma, ESP = esophageal squamous papilloma, HIV = human immunodeficiency virus, HPV = human papilloma virus, NBI = narrow band imaging, UGIE = upper gastrointestinal endoscopy.

Keywords: endoscopy, esophageal carcinoma, esophageal ulcer, human papilloma virus (HPV)

1. Introduction

The incidence of pure infectious esophagitis compatible with human papilloma virus (HPV) ranges from 0.01% to 0.45%.^[1] Nevertheless, the incidence of pure infectious esophageal ulcers compatible with HPV is rarely reported. Now, less than 30 cases have been reported all over the world.^[2,3] However, studies

about esophageal squamous cell carcinoma (ESCC), esophageal squamous papilloma (ESP), esophageal squamous cell intra-epithelial neoplasia, cervical and oropharyngeal carcinoma, nasopharyngeal cancer, and lung adenocarcinoma all related to HPV are reported.^[1–11] The mechanism of action of HPV remains uncertain. The idiopathic esophageal ulcer lesion compatible with HPV is still without a uniform criterion.^[3] In this report, the patient was successfully treated with vidarabine monophosphate therapy.

Editor: N/A.

NJ and YL contributed equally to this work.

The manuscript is approved by all the authors for publication. I would like to declare on behalf of my coauthors that the work described was original research that has not been published previously, and not under consideration for publication elsewhere, in whole or in part.

Tianjin Hospital of Integrated Traditional Chinese and Western Medicine's Ethics Committee approved the study.

Patient consent was given.

The authors declare that there is no conflict of interest regarding the publication of this article.

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Medicine (2017) 96:49(e9137)

Received: 2 November 2017 / Received in final form: 15 November 2017 /

Accepted: 16 November 2017

<http://dx.doi.org/10.1097/MD.0000000000009137>

2. Case report

A 71-year-old man who presented with a 3-month history of nausea and odynophagia and treated with proton pump inhibitors was taken to the Tianjin Hospital of Integrated Traditional Chinese and Western Medicine (Tianjin, China). The patient lost 12 kg weight in total because of aggravation after eating and drinking. But there were no other digestive syndromes containing acid reflux, epigastric pain, vomiting, or gastrointestinal bleeding. However, there were no exceptions by routine laboratory tests. We took him for an upper gastrointestinal endoscopy (UGIE) examination that showed the following: a 3.0 × 1.0 cm, deep, and big, esophageal ulcer with irregular border was located 34 cm from the incisors. Congestion and edema existed around the mucosa of the esophageal ulcer that seemed like esophageal carcinoma (Fig. 1); Narrow band imaging (NBI) revealed the representation of a less stained area in the center (Fig. 2). We initially suspected that the ulcer was esophageal carcinoma or human immunodeficiency virus (HIV) infection through the above-mentioned observations.

First, HIV is negative by laboratory test. Moreover, the patient had no improvement in symptoms after a week with treatments, including esomeprazole for 80 mg daily (I.V.T.) and oral

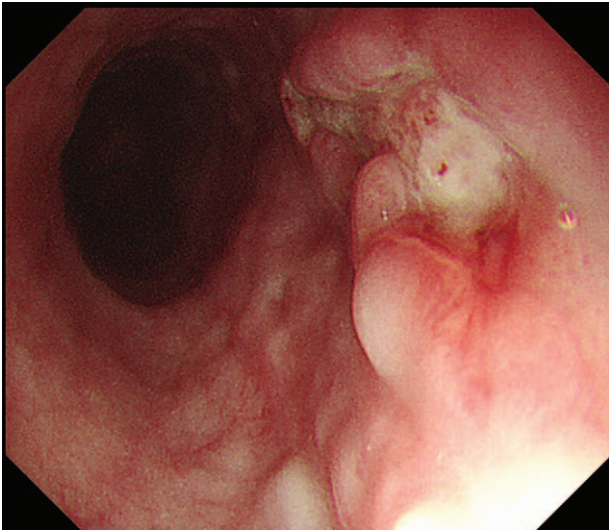


Figure 1. Upper gastrointestinal endoscopy revealing a big esophageal ulcer with irregular border.

hydrotalcite for 1500 mg daily. And then, the result of endoscopic biopsy came out, which contained squamous epithelium, chronic inflammatory reaction, and lymphoid hyperplasia. But tumor cell was negative, and all observations indicated that benign esophageal ulcer had been identified (Fig. 3).

Furthermore, focal koilocytosis that belonged to HPV was detected through immunohistochemical staining, which revealed the genotype of HPV for type 16. No evidence showed that cytomegalovirus and herpes simplex virus also existed. The patient was treated with vidarabine monophosphate for 300 mg daily (I.V.T.) based on experimental antiviral therapy. The patient showed great improvement in symptoms after 3 days and symptoms completely disappeared after 14 days with vidarabine monophosphate. One month later, the idiopathic esophageal ulcer was almost completely healed after reviewing the UGIE, and there was no recurrence of nausea and odynophagia after 6 months.



Figure 2. Narrow band imaging revealing a less stained area in the center.

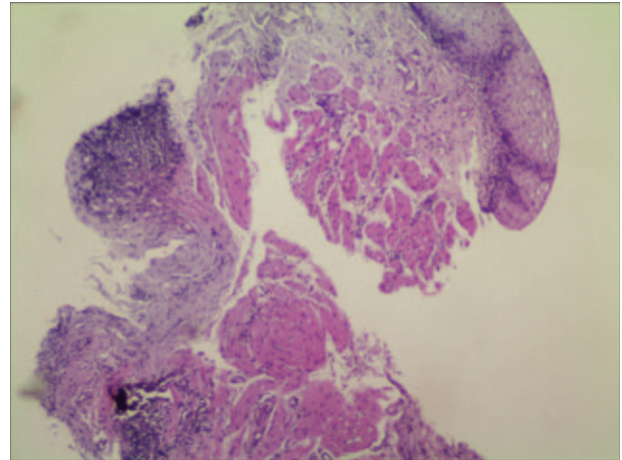


Figure 3. Histopathological observations of ulcer with squamous epithelium, chronic inflammatory reaction, and lymphoid hyperplasia (HE 4×).

3. Discussion

At present, the viruses related to esophageal infectious disease include HPV, HIV, Candida, cytomegalovirus, and herpes simplex virus.^[2] HPV is a kind of double-stranded DNA virus, which prefers to invade the mucosa and skin.^[12] HPV is detected from immunohistochemical staining, DNA microarray, in situ hybridization, or polymerase chain reaction.^[13,14] A lot of risk factors are mentioned and associated with sexual partners with HPV infection, alcohol abuse, hot food, and cigarette smoking.^[10]

The idiopathic esophageal ulcer lesion is more commonly discovered in patients who have HIV infection. In general, HIV is detected from the patients' esophageal biopsy.^[2] The present report showed that HPV was only detected from endoscopic biopsy and there was no evidence of other viruses. Consequently, we confirmed that idiopathic esophageal ulcer was only associated with HPV. Although the deep-rooted pathogenesis of HPV is still not proven, the cancer related to HPV is a worldwide common view.^[15] Type 16 HPV is confirmed to lead to 70% of cervical carcinoma^[16] and relate to ESCC.^[4-6] ESCC is the sixth most common reason to lead to death due to cancer and may be caused by a persistent HPV infection that plays a key role in pathogenesis of esophageal carcinoma.^[9]

Thus, we could put forward diagnostic criteria available for diagnostic guidelines as follows: Syndromes should include nausea, odynophagia, acid reflux, and dysphagia; Laboratory tests should include that HPV should be detected from immunohistochemical staining, DNA microarray, in situ hybridization, or polymerase chain reaction^[17]; The use of experimental antiviral drugs is effective; and Esophageal carcinoma and HIV infection should be excluded.

According to this report, we might take precautions against esophageal carcinoma and put forward 2 hypotheses that show the following: We should try our best to avoid risk factors, through having fixed and healthy sexual partners, avoiding eating hot food, not smoking, and drinking responsibly. We should promptly choose sensitive antiviral drugs for HPV to improve the symptoms of patients and prevent the disease from turning into esophageal carcinoma. These hypotheses could provide reliable and theoretical evidence for the prevention and treatment of esophageal cancer caused by HPV infection.

A long-term follow-up and more case reports would be desirable to make a greater contribution for strengthening the understanding of HPV-related diseases.

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