Esophageal candidiasis in an immunocompetent child due to chronic gastroesophageal reflux: Case report

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Introduction

Infections of the esophagus are rare and usually occur in immunocompromised patients. Fungus, herpes simplex virus, and cytomegalovirus are frequently seen causative agents for esophageal infections. Among fungus, Candida species, especially Candida albicans and less frequently Candida tropicalis, Candida krusei, Candida stellatoidea, are usually the cause of fungal esophagitis (1).

Although esophageal candidiasis is rare, it is common in immunosuppressive children during malignancy, chemotherapy, chronic or some infectious diseases and in children on long-term antibiotic treatment (2). Herein, we described an adolescent with diagnosed as esophageal candidiasis due to chronic gastroesophageal reflux.

Case

A 13-year-old girl was presented with epigastric pain for 5 years. Although she told us getting well her symptoms a little with antacids, she has not been completely improved with antacids for 6 months. No history of any drug except antacids was found. Physical examination was normal. Laboratory studies including complete blood count, liver and kidney function tests, erythrocyte sedimentation rate were within normal limits. There was no blood in the stool. The abdominal ultrasound imaging was normal. Her immune system evaluation was normal. The 24-hour pH monitorization showed a moderate gastroesophageal reflux. The gastrointestinal endoscopy revealed exudate, obvious mucosal erythema and early ulceration in the mucosa (Figure 1). Histopathology corrected the diagnosis as...
candidiasis. Hyphae was detected with potassium hydroxide, and both hyphae and yeasts in the hyperkeratotic squamous epithelium of the esophagus were shown by Hematoxylin and eosin staining. Helicobacter pylori were not found in the histopathologic examination. The treatment of alginic acid oral suspension (4x10-20 ml), lansoprazole oral tablet (1x30 mg) and nystatin oral suspension (4x500,000 units) was started. On the 4th week of treatment, she was completely well and symptom-free and had no lesion in her gastrointestinal endoscopy.

**Discussion**

As with most fungal infections, candidal infections usually occur due to a defect in the host immune defense mechanisms such as damaged mucocutaneous barriers (wound, burns, ulcerations), granulocytopenia, chronic granulomatous disease, myeloperoxidase deficiency, hypocomplementemia, hypogammaglobulinemia, usage of immunosuppressive drugs, HIV infection, impaired mucocutaneous protective bacterial flora. Any condition affecting functions of the immune system as mentioned above are significant risk factors for fungal diseases. In our case, it is possible that the esophageal candidiasis occurred because of the altered mucosal integrity which is a part of innate defense system by the chronic gastric reflux over time (1).

Esophageal candidiasis without underlying disease are not common. Simon et al. (3) reported an adult case with asthma complicated with esophageal candidiasis due to inhaled steroid treatment. Sood et al. (4) presented two case with esophageal candidiasis following omeprazole therapy. To the best our knowledge, this is the first case with esophageal candidiasis due to chronic gastroesophageal reflux. It may be resulted from susceptibility to fungus due to chronic irritation via gastric ingredient.

In addition, esophageal candidiasis is not so innocent clinical entity. Kimura et al. (5) determined a 74 years-old patient with esophageal candidiasis resulting in esophageal stricture despite antifungal treatment.

The treatment of esophageal candidiasis includes precautions and antifungal treatments. First, all the possible risk factors, such as immunosuppressives should be minimized. Antifungal therapy for esophageal candidiasis can be divided into topical treatment with nystatin, clotrimazole, and miconazole and oral or parenteral treatment with fluconazole, fluycytosine, itraconazole, and amphotericin B. The topical approach is not effective in the esophageal candidiasis and oral or parenteral fluconazole is the preferred treatment (1). We administered oral antifungal treatment for esophageal candidiasis in our case.

Although esophageal candidiasis is very uncommon in immunocompetent children, it should be in mind that esophageal candidiasis may be seen as a rare complication of chronic gastroesophageal reflux in immunocompetent adolescents.

**References**