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An acquired immunodeficiency syndrome patient with esophageal ulcer : A case report

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Mycobacterium tuberculosis is an uncommon cause of esophageal ulcer in human immunodeficiency virus infected patients. We report an acquired immunodeficiency syndrome patient who presented with a history of chronic progressive dysphagia, prolonged fever, and weight loss. Upper gastrointestinal endoscopy showed a deep ulcer at the distal part of esophagus. Endoscopic biopsy revealed focally ulcerated squamous epithelial mucosa infiltrated by acute and chronic inflammatory cells without well-formed granuloma. Special stain showed numerous acid-fast bacilli. The patient responded well to antituberculous therapy.

Keywords : *Esophageal ulcer, Tuberculosis, Acquired immunodeficiency syndrome*

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เชื้อวัณโรคเป็นสาเหตุของแผลที่หลอดอาหารที่พบไม่บ่อยในผู้ป่วยที่ติดเชื้อเอชไอวี ได้รายงานผู้ป่วยโรคเอดส์ที่มาด้วยประวัติกลืนลำบากเรื้อรัง และเป็นมากขึ้นร่วมกับไข้ระยะเวลานาน และน้ำหนักลด การส่องกล้องทางระบบทางเดินอาหารส่วนต้น พบแผลลึกที่ส่วน ปลายของหลอดอาหาร การตรวจชิ้นเนื้อที่ได้จากการตัดผ่านกล้อง พบแผลเฉพาะที่ในชั้น เยื่อบุชนิดสแควมัส และพบเซลล์แสดงการอักเสบชนิดเฉียบพลัน และเรื้อรังแทรกอยู่ในชั้น เยื่อบุชนิดสแควมัส โดยไม่พบแกรนูโลมาแบบสมบูรณ์ การย้อมพิเศษพบเชื้อทรงแท่งติดสีทนกรดจำนวนมาก ผู้ป่วยตอบสนองดีต่อการรักษาด้วยยาต้านวัณโรค

คำสำคัญ : *แผลที่หลอดอาหาร, วัณโรค, โรคเอดส์*

Esophageal disease is a common complication and morbidity in patients with human immunodeficiency virus (HIV) infection. Esophagitis and esophageal ulcer in acquired immunodeficiency syndrome (AIDS) are commonly caused by infection such as *Candida albicans*, *Cytomegalovirus*, *Herpes simplex virus* and *Varicella –zoster virus*. Other infectious causes, including *Mycobacterium tuberculosis*, have rarely been reported as a cause of esophageal disorders. We here report a case of AIDS with esophageal ulcer probably caused by *Mycobacterium tuberculosis*.

Case Report

A 54-year-old Thai married male presented with prolonged fever, progressive dysphagia, particularly after drinking water or taking liquid diet, without retrosternal chest pain, occasional cough, weight loss of 4-5 kilograms for 2 months. He was diagnosed human immunodeficiency virus infection for 10 years; however, no antiretroviral drug had been prescribed to him. No history of abdominal pain, diarrhea or impaired vision was obtained. He received several courses of treatment from private clinics and hospitals for one month without any improvement.

On admission, the patient looked weak, chronically ill. Vital signs included a temperature of 39.0 °C, a pulse rate of 100 per minute, a blood pressure of 110/70 mmHg, and a respiratory rate of 20 per minute. Minimal oral thrush was found but without oral hairy leukoplakia. No enlargement of cervical or supraclavicular lymph nodes was detected. There were rales on both basal lung fields. Heart sound was normal. The abdomen was soft with normoactive bowel sound; the liver and spleen were not palpable. Examination of extremities revealed several papules with excoriation on the forearms and legs of both sides. Neurological examination was unremarkable.

The complete blood count was unremarkable except mild anemia with hemoglobin of 12 gm/dl. The urinalysis and biochemical studies including liver function tests were normal. Blood culture grew no organism. His CD4+T-lymphocyte count was 62 cells per mm^3.and plasma HIV-RNA was 62,500 copies per mm^3. Chest radiograph on admission revealed peribronchial thickening at the right lower lobe with normal cardiac size and unremarkable mediastinal shadow (Figure 1). Three consecutive sputum exams were negative for acid-fast bacilli staining. Ultrasonogram of abdomen showed normal liver, gall bladder, common bile duct, spleen, and kidneys. No intraabdominal lymph node enlargement was demonstrated. Due to dysphagia and oral thrush found on physical examination, he was given fluconazole 200 milligram per day orally for 5 days for *Candida* esophagitis without any improvement. So, he was sent for upper gastrointestinal endoscopy which revealed deep irregular ulcer at the distal esophagus, about 30 cm. from the incisor. Biopsy of the ulcer was done and histopathology showed focally ulcerated squamous epithelial mucosa infiltrated by numerous acute and chronic inflammatory cells. Well-formed granuloma was not seen but special stain revealed numerous acid-fast bacilli, many of which were seen intracellularly. Tuberculous esophagitis was diagnosed and antituberculous therapy (isoniazid, rifampin, pyrazinamide and ethambutol) was started. Fever and dysphagia subsided 4 and 10 days respectively after therapy. At one month of follow up, he reported much improvement . Fever and dysphagia resolved. His appetite improved and he gained_weight about 2-3 kilograms.

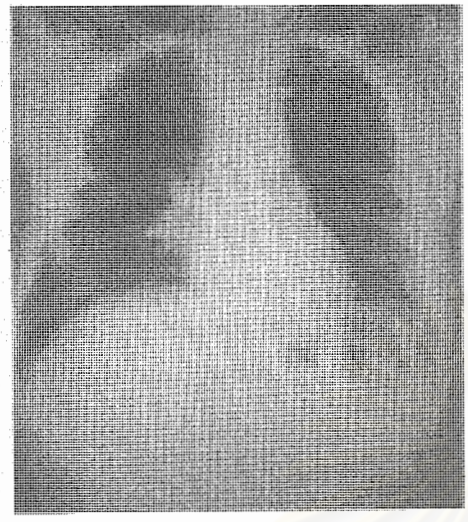

Figure 1. Chest radiograph showed peribronchial thickening at right lower lobe and unremarkable mediastinal shadow.

Discussion

This patient was HIV-infected and presented with prolonged fever and weight loss suggestive of major opportunistic infection or malignancy such as lymphoma. Due to the presenting symptom of progressive dysphagia, the opportunistic infection or malignancy in acquired immunodeficiency syndrome which involved the esophagus was strongly suspected.

The esophagus is one of the most common sites of gastrointestinal involvement in HIV-infected patients, with at least one-thirds of the patients having esophageal symptoms at some point during the course of human immunodeficiency virus infection. [1] Esophageal abnormalities typically produce symptoms of dysphagia and odynophagia which may due to esophageal inflammation or ulceration caused by infectious or non-infectious process such as reflux esophagitis or pill-induced esophagitis. Esophagitis and esophageal ulcer in HIV-infected patients are most commonly due to infection with *Candida albicans* but may also be caused by cytomegalovirus, *Herpes simplex* virus, *Varicella zoster* virus, and less commomly by other infectious agents including *Mycobacterium tuberculosis*, nontuber-culous mycobacteria, *Histoplasma capsulatum*, *Pneumocystis jirovecii*, and primary HIV infection.[2-5] Although mycobacteria have been considered rare causes of esophageal lesions both in immuno-competent and immunocompromised patients, Calore and colleagues recently reported that 17.1 % of esophageal biopsies from AIDS patients with clinical symptoms suggestive of esophagitis or esophageal ulcers were caused by *Mycobacterium* spp. [6] This indicates that esophageal mycobacteriosis particularly tuberculosis may be more common in AIDS patients than previously reported especially in areas with high prevalence of tuberculosis.

Esophageal tuberculosis is most frequently caused by a spreading infection from adjacent organs including mediastinal or cervical lymph nodes or the spine which can further lead to a stricture with obstruction or tracheoesophageal fistula formation and rarely fatal hematemesis from an aortoesophageal fistula.[7-13] Isolated esophageal tuberculosis possibly acquired the infectious pathogens from swallowing respiratory secretions in advanced pulmonary tuberculosis is very rare.[14] Roentgenographic evidence of pulmonary tuberculosis is, therefore, found in fewer than 25 % of the cases of esophageal tuberculosis. [15]

Dysphagia or coughing on eating is the predominant symptom of esophageal tuberculosis which is non-specific.[10] Our patient had chronic dysphagia for 2 months. Because the clinical presentation of the various causes of esophageal

ulcers are similar, therefore, he was initially treated as *Candida* esophagitis which is the most common esophageal disorder in AIDS patients. However, due to clinical unresponsiveness to oral fluconazole, upper gastrointestinal endoscopy was done and esophageal ulcer was demonstrated at the distal esophagus.

In HIV-infected patients who underwent upper gastrointestinal endoscopy for esophageal disease, *Candida*, cytomegalovirus, and *Herpes simplex* virus are among the common pathogens found. The endoscopic appearance of *Candida* esophagitis ranges from erythematous friable mucosa to complete covering of the mucosal surface by a heavy, shaggy, cream-to-white pseudomembrane throughout the esophagus, usually with greater density in the lower two-thirds of esophagus.[16,17] Cytomegalovirus infection may produce large ulcers in the distal esophagus, with discrete margins showing little or no inflammatory changes. The large ulcers is usually shallow and may be solitary or multiple. [18,19] *Herpes simplex* virus esophagitis has a classic early lesion. There are usually small papules or vesicles (less than 5 mm.) that ultimately ulcerate. The mucosa surrounding these lesions is erythematous but that between lesions may be normal in the early stage. These vesicles are usually seen only in early herpetic esophagitis. Thereafter, the vesicles will evolve into erosions and later distinct ulcers. The typical ulcers are round with margins that are distinct and elevated above the plane of the mucosa (volcano ulcers).[20] The base of the ulcer is covered with white-to-yellow exudate. As ulcers enlarge, they may coalesce, with the resulting larger ulceration tending to be linear and oriented in the long axis of the esophagus. There is a tendency for ulcerations in the distal esophagus to be larger or to coalesce more readily, even becoming circumferential probably by material refluxed from the stomach.[17,21] For esophageal tuberculosis, endoscopic features are variable, diverse, nonspecific, and poorly described. These findings may be confused with those of esophagitis due to infectious causes including *Candida*, cytomegalovirus, and *Herpes simplex* virus as described or esophageal cancer. However, some studies found that certain endoscopic features, such as deep and large esophageal ulcers with undermined edges, esophageal sinuses or tracheoesophageal fistulous openings, and nonhealing ulcer, are strongly suggestive of tuberculosis-related esophageal lesions.[10,22] Nevertheless, definite diagnosis of esophageal tuberculosis needs a demonstration of acid-fast bacilli staining of biopsy specimens (which can not differentiate between *Mycobacterium tuberculosis* and nontuberculous mycobacteria) and tissue culture. In our patient, esophageal mycobacteriosis was diagnosed by histopathologic finding of numerous intracellular acid-fast bacilli in the biopsy specimens but tissue culture for mycobacterium, unfortunately, was not available.

Conclusion

We report a case of esophageal ulcer probably caused by *Mycobacterium tuberculosis* in an AIDS patient. Tuberculosis as a causative factor for dysphagia should be raised to consideration in developing countries where the prevalence of tuberculosis is high, especially in immuno-compromised hosts. Because of a non-specific clinical and endoscopic features of tuberculous esophagitis, a thorough endoscopic and histological workup is imperative to establish a correct diagnosis and,

consequently, to provide appropriate treatment with standard antituberculous therapy. Wherever esophageal biopsy is an available diagnostic procedure, the method may be employed as a routine screening for tuberculosis in patients with AIDS.

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