Abstract

Tuberculosis is caused by the Mycobacterium tuberculosis bacterium. Tuberculosis primarily affects the lungs. Patients mainly complain of cough, sputum, night sweating, weight loss, and fever. However, there may be cases of atypical presentations. Although aphthous mouth ulcers are mostly present in the oral cavity in primary tuberculosis patients, our literature search showed only one case report of pulmonary tuberculosis with oral aphthae. Here we report a case of a patient with pulmonary tuberculosis admitted to the hospital with the complaint of oral aphthae.

Keywords: Lung, Mycobacterium tuberculosis, oral ulcer

Introduction

Tuberculosis is one of the oldest infectious diseases in the world and occurs in a respiratory tract infection with Mycobacterium tuberculosis.

Mycobacterium tuberculosis is a part of the Mycobacterium complex, which comprises four Mycobacterium strains that are tightly bound with each other genetically and cannot be distinguished using new bacteriological methods. Mycobacterium tuberculosis, Mycobacterium bovis, Mycobacterium microti, and Mycobacterium africanum are elements of this complex. These subtypes cannot be differentiated by routine microbiological examinations. Because the other strains rarely cause disease in humans, in case of the Mycobacterium tuberculosis complex as the etiological agent, it refers Mycobacterium tuberculosis. The resulting disease from a Mycobacterium tuberculosis infection is tuberculosis (1). The Mycobacterium tuberculosis complex mainly affects the lungs; however, there may be significant involvement of extrapulmonary organs. In general, the infection is located in the apices of the lungs and progresses with cavitations. Patients mainly complain of cough, sputum, night sweating, weight loss, and fever (2).

In Turkey, the registered tuberculosis patient rate in 2007 was 27.9 for all cases and 25.2 for new cases per 100,000 population (3).

Microbiological investigations are essential for a definitive diagnosis of tuberculosis. The gold standard in bacteriological diagnosis is the demonstration of growth of Mycobacterium tuberculosis in culture (4).

Although aphthous mouth ulcers are mostly present in the oral cavity in primary tuberculosis patients, our literature search showed only one case report of pulmonary tuberculosis with oral aphthae. The present case report emphasizes that oral aphthae are an initial symptom of pulmonary tuberculosis, which is quite rare.

Case Presentation

A 37-year-old female patient was admitted to our rheumatology polyclinic with complaints of recurring oral aphthae for the previous 1 year and rash on her legs from the previous 2 days. The patient's aphthous mouth ulcers started 1 year previously, became frequent, and did not heal in the previous 6 months. The patient received various gargles and antibiotics in several health centers, but she did not benefit from those medications. She had lost 12 kg since her symptoms had begun; furthermore, she also developed non-productive cough in previous 5 months and sometimes, coughed yellow sputum. She developed a red, blistered rash on her legs in the previous 2 days.

Rheumatological interrogation revealed complaints of oral aphthae, dry mouth, and hair loss. The patient described no genital aphthae, dry eye, dry skin, frequent uveitis attacks, photosensitivity, malar rash, genital leak, alopecia, Raynaud phenomenon, or morning stiffness.
The chest radiography suggested tuberculosi, and a purified protein derivative test was performed, resulting in a 22×15-mm induration. Besides acid-resistant bacteria in the sputum and tuberculosi culture was performed. Acid-resistant bacteria were 1+ in the sputum. The tuberculosi culture showed growth of the Mycobacterium tuberculosis complex. The current findings were sent to the department of chest diseases for consultation, and the patient was referred to the department of chest diseases for treatment and follow-up. Antituberculosi therapy was administered for over 6 months, and at that time, oral aphthae regressed and then, disappeared. At the 1-year follow-up, no recurrence was observed.

Discussion

Tuberculosi is a disease that has been threatening public health since ancient times. The excessive occurrence of tuberculosi among young people indicates that is has been spreading and is an epidemic. Occurrence among the elderly indicates past epidemics and recurrence of this disease; thus, it is not important for spreading and new epidemics. When the age distribution of tuberculosi patients in Turkey was determined, it was found that most of the patients are young. Case rates based on the age groups show two distinct peaks: the age group of 15-34 years and the elderly (3). Our patient was 37 years old and demonstrated the characteristics of a young patient with tuberculosi.

When the gender distribution among pulmonary and extrapulmonary tuberculosi patients is considered, it can be seen that 70% of pulmonary tuberculosi patients are male, whereas only 46% of extrapulmonary tuberculosi patients are male. This indicates that pulmonary tuberculosi is prevalent among men, whereas extrapulmonary tuberculosi is prevalent among women (3). Our patient was a woman and had with pulmonary tuberculosi.

The risk of tuberculosi development is related to several environmental factors. Many recent studies demonstrated that smoking increases the risk of active tuberculosi by 2-fold as an independent factor (5). The patient in the present report had a history of 20 package years of smoking. Therefore, we considered that smoking was involved in the development of tuberculosi.

Erythema nodosum is a common integumentary sign in daily practice in rheumatology clinics. It mostly occurs acutely on the extensor aspects of the lower extremities. Erythema nodosum may be occur in streptococcus infections, tuberculosi, leprosy, drug-associated hypersensitivity reactions, and malign disorders.
drug-associated hypersensitivity reactions and malign disorders, but in our case, there was no drug that the patient had used and her tumor marker tests were normal. Erythema nodosum rarely occurs in adults with a tuberculosis infection (6). In 2012, Oz et al. (7) conducted a 5-year retrospective epidemiologic study and found the rate of tuberculosis-associated erythema nodosum to be 3%. Our patient is a rare case of a tuberculosis infection associated erythema nodosum.

Aphthous mouth ulcers are clinical signs that frequently occur in rheumatologic disorders. Recurrent oral aphthae may sometimes accompany other chronic diseases such as tuberculosis. When the immune system is weak, oral aphthae occur frequently. In addition, fever and weight loss occur in rheumatologic disorders. The patient in the present report had aphthous mouth ulcers, weight loss, and fever. Malignancy, human immunodeficiency virus infection, and tuberculosis are among the causes of oral aphthae, in addition to rheumatologic disorders such as systemic lupus erythematosus, reactive arthritis, Behçet’s disease, and vasculitis. Laboratory findings in the present case revealed that the antinuclear antibody, antibodies to double-stranded deoxyribonucleic acid, cytoplasmic antineutrophil cytoplasmic antibodies, perinuclear antineutrophil cytoplasmic antibodies, and tumor markers were negative. In the literature, oral aphthae and ulcers may be seen in the oral cavity of primary tuberculosis patients. However, there was only one case report of pulmonary tuberculosis with oral aphthae. In that article, which was published in 2012, a 42-year-old female patient with chronic oral aphthae was reported to be unresponsive to antibiotics. Biopsy and further investigations confirmed the diagnosis of pulmonary tuberculosis. Aphthae resolved by isoniazid and rifampin therapy for 8 months (8). In our patient, development of oral aphthae was the first sign of pulmonary tuberculosis. A 1-year gargle and antibiotic therapy provided no benefit, and during the previous 6 months, these complaints continued.

Bacterial culture is the gold-standard for diagnosing tuberculosis (9, 10). A definitive diagnosis can be made by observing the growth of a microorganism in the sputum. In the present case, the sputum culture showed growth of the M. tuberculosis complex, which confirmed the diagnosis.

Our country is under moderate risk of tuberculosis. However, increase in the number of elderly population and the use of immunosuppressive agents seem to augment the risk of tuberculosis daily. In rheumatology clinics, patients with oral aphthae and erythema nodosum should be investigated in more detail and tuberculosis should be considered in the differential diagnosis.

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Informed Consent: Informed consent was obtained from patient who participated in this study.

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References