Periodontal Diseases as an Initial Oral Image of Abdominal Tuberculosis

Dzhuraeva Albina Ortikovna
Moscow Medical University "REAVIZ" Moscow, Russia
Toshtemirova Mohira Mahmud Kizi, Kasimova Dilafruz Makhmadaminovna
Samarkand State Medical University Samarkand, Uzbekistan

Annotation: Tuberculosis is a chronic specific granulomatous disease and the main cause of death in developing countries. We report a case of tuberculosis, which first manifested itself in the form of loss of periodontal support of teeth, which led to tooth loss and gum enlargement in a 20-year-old patient without any lung damage. The diagnosis was made on the basis of histopathological examination and a positive test for adenosine deaminase activity on Mycobacterium tuberculosis. The clinical picture of tuberculosis can take various forms. However, with a decrease in the number of tuberculous lesions of the oral cavity have become so rare that they are often overlooked in the differential diagnosis of oral lesions. In addition, this clinical case emphasizes the need for dental clinicians to be aware of the possibility of tuberculosis primarily in the oral cavity and contribute to the fight against tuberculosis by early detection and referral of patients to doctors for appropriate treatment.

Keywords: Gum enlargement, mycobacteria, periodontal diseases, tuberculosis.

Relevance. Tuberculosis is a chronic granulomatous disease affecting various body systems. This remains a serious health problem in most developing countries. India accounts for almost a third of the global TB burden. Every year, approximately 2.2 million people get tuberculosis, of which about a million are new positive smears with high infection, and about five million people die from tuberculosis every year.[1,2] Although extrapulmonary tuberculosis is rare and occurs in 10-15% of all cases, it can affect any part of the body, including the oral cavity.[3] Primary tuberculosis of the oral cavity is extremely rare and usually occurs in young people. This usually includes the gum as a painless lesion.[4] Secondary tuberculosis of the oral cavity, on the other hand, is common and is usually observed in the elderly, affecting the tongue, palate, lips, mucous membrane of the cheeks and gums.[5] But, since the incidence of tuberculosis in our country is quite high, all atypical manifestations of tuberculosis are likely to be observed from time to time. Several cases of gum tuberculosis have been reported in the literature. The clinical picture of tuberculosis can take various forms. Here we report a case of tuberculosis, which first manifested itself in the form of loss of periodontal support of teeth, which led to tooth loss and enlarged gums without involving the lungs.

Material and methods of research. The patient at the age of 20 years went to the dental clinic with the main complaints of pain, loss of back teeth in both arches from 6 months and the gap between the upper and lower teeth. There was no history of injuries or contact with a tuberculosis patient. Local doctors treated her with antibiotics and vitamin supplements. Since there was no improvement, she turned to this clinic.

The patient had a history of moderate periodic fever during the last 3 months. She had a total weight loss of 8-10 kg for 8 months along with a loss of appetite. There was no systemic lesion in her medical history and there was no cough with expectoration in her anamnesis.

One of her younger brothers suffers from asthma and takes medication. She had a dental history of removing the right third molar (48) under local anesthesia.

Upon examination, her general condition and vital signs were normal. An extraoral examination revealed no facial asymmetry. The submandibular lymph nodes were enlarged and firm on palpation.

Intraoral examination showed generalized inflammatory enlargement of the gums and periodontal pockets with all posterior teeth in both arches with moderate or severe mobility. Molars were painful with percussion. A red compacted soft swelling was present palatally in relation to areas 24, 25 and 26, extending near the mid-palatine suture. The patient's oral hygiene was impeccable. The lips were incompetent. The chest was clinically clean.

The patient was recommended antibiotics and analgesics, chest X-ray, orthopantomogram and Mantoux test. The Mantoux test was negative. Chest X-ray showed no abnormalities. OPG revealed moderate or severe bone loss in relation to molars on both arches and palatine radiotransparency in relation to areas 24, 25 and 26.

A postoperative biopsy was performed on the labial gum in relation to the maxillary right molars. Histopathological examination showed papillomatous hyperplasia of the multilayer squamous epithelium along with parakeratosis. Granulomas formed by epitheloid cells, giant cells of the Langerhans type, lymphocytes and some caseous necrosis were found in the subepithelial tissue. Granulomas were present in the upper part of the subepithelial tissue and even intraepithelially. These signs suggested a tuberculous granulomatous lesion. After 2 days, she complained of an overfilled stomach and inability to take medications and food, because of which she was then referred to a gastroenterologist. The gastroenterologist advised to conduct an ultrasound examination of the abdominal cavity and a quantitative analysis of serum, plasma and biological fluids for the activity of Mycobacterium tuberculosis adenosine deaminase (ADA MTB). The ultrasound report revealed ascites with thickening of the mucous membrane of the segment of the small intestine and bilateral enlargement of the ovaries. The ADA MTB test showed a positive result for abdominal Koch with a total ADA value of 83.3 U/l h. The gastroenterologist's report mentioned tuberculosis of the abdominal cavity with bilateral enlargement of the ovaries. Based on the biopsy report, ultrasound examination of the abdominal cavity and the ADA MTB test, the patient was diagnosed with abdominal tuberculosis, which first manifested itself in the oral cavity as a periodontal lesion.

After consulting with a doctor, the patient was hospitalized, 14 liters of ascitic fluid were removed and anti-tuberculosis therapy with isoniazid (10 mg/kg body weight), rifampicin (10-20 mg/ kg body weight) and pyrazinamide (10-20 mg / kg body weight) was started for 2 months, followed by isoniazid and rifampicin for the following 4 months. During this period, the patient was instructed not to undergo any surgical interventions in the oral cavity and was warned about the transmission of the disease to others

Results and discussion. Tuberculosis describes an infectious disease that has affected people since the Neolithic period. Doctors in ancient Greece called this disease “consumption” to reflect its debilitating nature. Tuberculosis remains the leading cause of death worldwide. Vulnerability to tuberculosis in developing countries is a result of poverty, economic downturn and malnutrition. [1, 2] Extrapulmonary tuberculosis, like tuberculosis of periodontal tissues, is a rare disease. Even in our country, where tuberculosis is very common, tuberculosis damage to periodontal tissues has probably been reported very rarely. Oral tuberculosis is usually post-primary and occurs in patients suffering from progressive pulmonary tuberculosis. Tuberculous lesions of the oral cavity manifest themselves in the form of nodules, ulcers or raised cracks.

The most commonly affected areas are the tongue, hard and soft palate, tonsils and pharynx. This can occur in the mucous membrane of the cheeks, gums and in places of lip adhesions. [6,7]

The reason for its rare appearance in the oral cavity may be an intact squamous epithelium that resists direct penetration of bacteria.[8] This resistance may also be related to the thickness of the oral epithelium and the protective effect of saliva.[9] Thus, it has been suggested that organisms penetrate the oral mucosa through a small hole on the surface or any local injury.[10] The organism is likely to be transferred to the tissues of the oral cavity hematogenically.[11]

The case documented here may be one of the first cases of oral tuberculosis, which was presented as a periodontal lesion, and not as an ulcer or any mass. In this case, the patient did not know about the systemic lesion and the detection of periodontal disease, and subsequent observation of the patient prompted us to choose a further study. The patient was referred to a gastroenterologist with complaints of stomach overflow, for which various tests were recommended. The diagnosis was confirmed by a histopathological picture of granulomatous lesion, X-ray examination, ultrasound examination of the abdominal cavity and a positive ADA MTB test. The possibility of an increase caused by medications was excluded based on the medical history. The results of the general blood test were within the normal range, with the exception of hemoglobin 9.6% and increased ESR 46 mm /h, which excluded the increase associated with leukemia and increased the likelihood of one of the most common causes of increased ESR, suggesting tuberculosis infection. The HIV test was negative.

We assume that due to the removal of the lower right third molar (48), the patient may have developed a violation in the epithelium or hematogenous spread, contributing to the penetration of the body.

Conclusion. Detection of periodontal disease as an initial manifestation of tuberculosis is a relatively rare phenomenon, and in this clinical case, the need to include tuberculosis in the differential diagnosis of various types of lesions of the oral cavity is emphasized. Dentists and internists should be aware of this possibility and play a role in the early detection and surgical treatment of this highly infectious and infectious disease.

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