Primary Tuberculosis of the Cheek skin: Difficulties in Diagnostic Procedure

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Key words: facial granulomas; chronic inflammation; skin tuberculosis; cuts; cheek tuberculosis.

Abstract

Background. Tuberculosis of the skin is rare disease in Europe. Diagnostic procedure is long and difficult.

Aim. Aim of our manuscript is to point out that in differential diagnosis of chronic skin diseases, it is necessary to take tuberculosis into consideration as well. We represented rare case of cutaneous tuberculosis that required surgical procedure.

Case report. A 46-year-old female, psychiatric patient, was referred to our clinic on surgical treatment of buccal abscess on the cheek. We extracted the teeth that were considered to be cause of inflammation, and the antibiotic therapy was prescribed. Patient was seen after nearly two months. At the place of previous skin incision there was a visible fissure with surrounding erythematic and desquamation, and the fistula on the buccal mucous membrane. The findings of probatory biopsy showed elements of granulomatous inflammation. The first findings for Mycobacterium tuberculosis were negative. However, after five weeks the cultivation test was positive. The focus of infection was not found anywhere else.

Conclusion. Despite of successful prevention programs over the world, tuberculosis is still public health problem in Balkan region. Cutaneous tuberculosis, although very rare, is also present in this region. Early diagnose and patient’s compliance is very important for further treatment.

Introduction

The World Health Organization (WHO) has declared tuberculosis a global emergency in 1993 (1). Despite prevention programs, some authors found that tuberculosis in 2005 is still progressing endemically in developing countries. Incidence of tuberculosis is the highest in Africa and Asia (100-250/100000 people) (2). In the high developed countries incidence is under 20/100000 people, in East Europe incidence of tuberculosis are still increasing 4.3% per year with incidence of 100/100000 people. According to WHO analyses of tuberculosis, Croatia was assorted in the part of Balkan region. In Balkan region rate of illnesses is decreasing 0.5% per year (3). In 1998 year Croatian Ministry of Health adopted a regulation "Instruction for control and prevention of tuberculosis". In Croatia incidence decreased from 36/100000 people in 1996 year to 22/100000 in 2008 year (4). Cutaneous tuberculosis is rare in Europe, and more often in Africa and Asia and developing countries (3).

Aim of our manuscript is to point out that in differential diagnosis of some chronic diseases, it is necessary to take tuberculosis into consideration as well. We represented women with rare case of cutaneous tuberculosis that required surgical procedure.
Case report

A 46-year-old female, psychiatric patient, was referred to our clinic on surgical treatment of buccal abscess on the right cheek. She had diagnosed depressive syndrome and she was hospitalized in psychiatric institution. Communication with her was poor and she had no particular interest for her health state. It was hard to find out all details about her symptoms, medical and social history.

Erythematic and infiltration of her right cheek were dominant in the clinical findings. Considering the incomplete previous medical records and less reliable statement of the patient herself, we found out that the changes had lasted for a few weeks.

The orthopantomogram revealed numerous remaining dental roots. We extracted the teeth that were considered to be cause of inflammation, and the Amoxicillin with Clavunate and Metronidazol was prescribed.

Five days later, the clinical state was the same, the hard infiltration in the right cheek was palpable, and the skin was red. Intraoral incision was performed and the specimen for microbiological cultivation was taken. In spite of the Ciprofloxacin and Gentamicin given according to antibiogram, the clinical findings at the right cheek were not considerably changed.

After a week findings for the cheek were still unchanged. An extra oral incision was made and there was a curd matter, similar to the ones coming from the atheroma, so the drainage was set.

At the next appointment clinical finding were just minimally improved. Approbatory excision was made at the edge of infiltration and histology report reviled – chronic inflammation.

Patient missed her appointment and was seen after nearly two months. There was no infiltration on the right cheek, but at the place of previous skin incision there was a visible fissure, approximately 3 cm in diameter, with surrounding erythematic and discrete desquamation (Fig.1) and the small fistula on the buccal mucous membrane (Fig. 2).

Approbatory excision, cytological biopsy, bacteriological cultivation as well as routine laboratory analyses were repeated.

The findings of cytological biopsy showed elements of granulomatous inflammation and histology report showed chronic granulomatous inflammation. At this stage we suspected cutaneous tuberculosis so we directed the diagnostically procedure in that direction.

The first findings for *Mycobacterium tuberculosis* were negative. In the microscopic smear acid-fast bacilli (tubercle bacilli) was not found, and amplifying genetically test did not show the presence of *M. tuberculosis*. However, after five weeks the cultivation test was positive. The patient was also examined by the pulmologist, and the focus of infection was not found in the lungs or anywhere else. We verified that our patient’s case was primary tuberculosis process, in the form of lupus vulgaris.

![Figure 1: Clinical findings of the patient's cheek at the suspicion of tuberculosis.](image1)

![Figure 2: Cheek fistula - intraoral findings of the patient.](image2)
Therefore, the tuberculostatics were included according to the therapy scheme.

After the antituberculosis polichemotherapy, clinical findings were significantly improved. Only a few weeks after the therapy was started, just an atrophied scar was visible.

Discussion

Cutaneous tuberculosis is usually caused by *Mycobacterium tuberculosis*, *Mycobacterium bovis* and rarely *bacillus Calmette-Guerin*. *M.tuberculosis* usually attacks the lungs, but they can also damage other parts of the body. *M.tuberculosis* is the causative agent of different changes of the skin, dependent of immunological status. Cutaneous tuberculosis represents only 2% of extra pulmonary locations (2). Scrofuloderma was the most common clinical presentation, followed by lupus vulgaris, tuberculosis verrucosa cutis and tuberculids (3). Several authors find out that the incidence of cutaneous tuberculosis in the different countries seems to be increasing (5-10).

There is an increased risk of cutaneous tuberculosis in patients with malnutrition, patients with malignant disease, diabetes, chronic renal failure and on dialysis, psychiatric disease and patients with any immunodeficiency as compared to the general population. Cutaneous tuberculosis infection is most often exogenous or rarely endogenous from a focus inside the body, usually lungs (7). Some authors describe the case of primary cheek fistula secondary infected with *M. tuberculosis* from the sputum of a patient with lung tuberculosis (11). Other authors found that organ tuberculosis is rarely associated with cutaneous tuberculosis (8, 12).

With this paper, we wanted to point out that in differential diagnosis of chronic facial granulomas, it is necessary to take skin tuberculosis into consideration as well.

Verification of *M. tuberculosis* could be very long, considering that the procedure of cultivation lasts up to six weeks (7). Diagnosis of cutaneous tuberculosis was challenging and required a multidisciplinary approach for the application of efficient therapy (6).

Conclusion

Despite of successful prevention programs over the world, tuberculosis is still public health problem in Balkan region. Cutaneous tuberculosis, although very rare, is also present in this region. Early diagnose is very important for further treatment. Because of large atypical changes on the cheek the patient responded first to surgical treatment of changes on her cheek, and in further treatment took chemotherapy with tuberculostatics. One of the reasons for the long diagnostic procedure of our patient was a difficult diagnostic procedure of tuberculosis, but in the other hand patient’s mental condition could be the reason for not accessed to the physician’s control exam at the right time as well.

Disclosure

Authors declare any affiliation or significant financial involvement in any organizations or entity with a direct financial interest in the subject matter discussed in the manuscript on this page. This includes employment, honoraria, consultancies or relevant stock ownership.

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