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CUTANEOUS TUBERCULOSIS: CASES FROM THE PRACTICE

Abstract. The publication draws attention to the relevance of dermatological manifestations of tuberculosis. Clinical manifestations mostly are not clear, detection of mycobacteria is a difficult process, and absence of typical histological signs of disease leads to a late diagnosis. Scrofuloderma, lichen scrofulosorum and indurative erythema of Bazin are ones of them. Some cases of cutaneous tuberculosis, principles of diagnosis and the main diagnostic mistakes are discussed.

Keywords: cutaneous tuberculosis, scrofuloderma, lichen scrofulosorum, indurative erythema of Bazin, diagnostic methods, diagnostic errors.

Actuality. The relevance of mycobacterial infection nowadays is increasing rapidly. Tuberculosis (TB) is an ancient human disease and remains today one of the most important public health problems. Sanitary-educational work among the population, modern diagnostic measures should control the illness prevalence. However, we observe an increase in the number of late diagnosed cases.

In routine practice of dermatologist skin tuberculosis registers occasionally.
INTERNATIONAL SCIENTIFIC DISCUSSION: PROBLEMS, TASKS AND PROSPECTS

About 14% of affected by Mycobacteria tuberculosis patients present extrapulmonary form. And only 1-2% of those have cutaneous involvement. Diagnosis of this is not an easy task. Some risk factors and the features of the lesion may lead to suspicion of cutaneous TB, but a confirmation of the diagnosis is possible only through complex of clinical and laboratory diagnostic methods.

Despite that, in recent years we diagnose the cases of this nosology more often, without clear association with sex and/or age.

Statistics say, that almost a third of the population is infected by Mycobacterium tuberculosis. Mostly, these are socially unfavorable contingent of the population with low living standards and vaccination coverage or people with poor immunity due to immunosuppressive therapy for various systemic diseases, malnutrition, alcoholism, drugs abuse, diabetes mellitus, HIV-infection. Skin tuberculosis is the secondary manifestation of infection. It rarely develops and often takes more than one year from the beginning of the disease to the diagnosis. These patients take treatment at the specialized institutions. Affected individuals have unfavorable prognosis. Once *M. tuberculosis* reaches skin and soft tissues, it can resist host immune responses and start replicating and causing the classical granulomatous lesions. In spite of the relatively small area of skin damage, this process has an irreversible destructive character. Therefore, the main role of the dermatologist is the timely and proper diagnosis as the disease has various manifestations and should be differentiated from many common skin pathologies.

**Goal.** The purpose of this publication is to draw doctor’s attention to the urgency of the problem of cutaneous tuberculosis; to emphasize a conscientious attitude to their responsibilities. Diligently collected anamnesis, accurate evaluation of the obtained data, performance of additional methods of examination to confirm or rule-out the disease are the keys to a correct diagnosis. In case of doubts, we advise do not hesitate to consult with the related professionals. Whereas, collective opinion solves many unclear issues.

**Materials and methods.**

In this article, we present few clinical cases of cutaneous TB, which emphasize the complexity of the disease diagnosis. All these cases we observed for the last 5
years in different medical institutions in Ukraine and Libya. Unfortunately, we lost the photos, but we share our experience with colleagues.

A 80-year-old man, originating from Libya, was referred from private clinic by general practitioner for consultation, due to presence of some rash in the neck. This patient was observed for 5 years by this specialist with a diagnosis of chronic obstructive bronchitis. He was a heavy smoker and in time of the cough worsening he applied for treatment. Usually doctor prescribed wide-broad spectrum antibiotics. But, for unknown reasons, all that time doctor didn’t perform X-ray examination.

Objectively: the man is cachectic, with severe shortness of breath, he coughs, closing the mouth with a handkerchief, which is bloody. On a background of grayish skin, there is a painless, cyanotic nodule with the size of 10*5 cm, with draining of caseous masses from multiple crater-like ulcers with foul odor, in the right supraclavicular area with the transition to lateral surface of the neck.

Our diagnosis was scrofuloderma (colliquative tuberculosis of the skin). This condition may be associated with concomitant pulmonary tuberculosis, for this reason, X-ray examination of chest was performed in an urgent manner. And conclusion was disseminated lung tuberculosis.

Scrofuloderma needs to be distinguished from actinomycosis, hidradenitis suppurativa and eumycetoma. But in this situation, we did not have any doubts and did not perform a biopsy.

Patient was referred to specialized hospital and, unfortunately, he has died during one month after starting the treatment.

After examination of his family, in 2 grandsons (3 and 4-year-old) and his daughter the tuberculosis of lungs was revealed, and in his wife - tuberculosis verrucosa cutis were revealed. His wife had rash on the dorsal surface of left hand, what she treated as a fungal infection during last 3 months without any improvement.

Another case is interesting too.

Young Egyptian, 35-year-old man, was admitted to neurosurgery clinic with complaints of severe pain in cervical spine, weakness, limited movements in neck, back and right arm, what appeared suddenly, and a low-grade fever, especially in the evenings. In anamnesis - psoriatic arthropathy, chronic tonsilitis, autoimmune
thyreoiditis. Few months before, due to severe pain in back and joints patient used systemic corticosteroids in dose 60 mg per day for 4 months and methotrexate. MRI examination said about presence of the spondylodegenerative changes of the cervical vertebras with spondylitis, spinal hernia was not detected. X-ray of chest was normal. VDRL test was negative and HIV ELISA – positive. After collection of cerebrospinal fluid and its microscopy, the mycobacteria tuberculosis was detected.

Dermatologist’s inspection revealed milliar perifollicular yellowish-pink papules with the scaling on the lateral surfaces of the trunk. It was suspected lichen scrofulosorum and recommended quantiferon gold test, which was strongly positive.

After evaluation of all obtained data, our final diagnosis was the tuberculosis of spine bones with secondary cutaneous tuberculosis. Our patient was transferred to TB-center and started therapy.

One more example.

A 40-year-old Ukrainian engineer underwent a routine medical examination. On the extensor surface of both shins, we note a yellowish smooth focus with a fussy borders and dense consistency. Some small slightly painful nodules were present too.

These manifestations the patient notices more than 1 year ago. He was consulted by dermatologist and due to diabetes mellitus type I, which he has been suffering from for more than 20 years, this lesion doctor was regarded as lipoid necrobiosis. Some time patient applied topical steroids, but without any visible improvement.

The diagnosis of indurative erythema of Bazin was confirmed by positive tuberculin intradermal test and Quantiferon TB GOLD test. Skin biopsy gave us panniculitis and vasculitis. We referred this patient to specialized pulmonological center. And after 3 months of specific therapy the skin lesions had subsided completely.

Discussion.

Skin reaction to M.tuberculosis have many different manifestations. In our cases, primary focus of infection was revealed after consulting a dermatologist. The histories of these patients’ diseases showed that experience of affection by this bacteria was not 1-2 months. Various factors contribute to this disease. Underlaying
conditions, such as diabetes mellitus, autoimmune disorders, HIV-infection, lead to immunosuppression. Such individuals are vulnerable to pathological agent and small injury, contact with infected person or contaminated items are the ways of infection. Autoinoculation, lymphatic or hematogenic dissemination play the main role in the cutaneous tuberculosis development.

Diagnosis of cutaneous tuberculosis is not easy and it takes time. Mostly, due to non-specific features of the lesions, they can simulate other skin problems. Verrucous psoriasis and lichen planus, warts, fungal infections and deep mycoses, hydrenitis and syphilitic gumma, even skin cancer should be ruled-out. Except clinical examination and specific tests, a skin biopsy will give us a final answer. Histologically, usually granulomas in dermis, caseous necrosis, epithelioid cells with Langerhans giant cells and lymphocytes, panniculitis with vasculitis are observed.

Tuberculin test and Quantiferon gold test are the important diagnostic tools and nowadays they are a gold standard of modern confirmation of tuberculosis.

Balanced tactics of the doctor, sequence of actions, teamwork, taking into account the opinions of colleagues are a guarantee of successful goal achievement in the difficult and complicated diagnostic process.

Conclusion.

Physicians of all specialties face challenges that should be overcome. The growing incidence of tuberculosis requires careful attitude to the patient. Each patient should be considered as a potential TB patient. In the context of globalization, the important role of the family doctor in the struggle for the health of the population, coordinated work with related specialists, ensuring a full and adequate examination of the patient according to the standards are the components of a successful specialist. We want to emphasize that the knowing of skin manifestations of mycobacterial infection is a professional skill of the modern doctor.

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