



**A CASE OF MYCOSIS OF THE FEET IN A PATIENT IN THE
REHABILITATION STAGE AFTER A CORONAVIRUS INFECTION**

<https://doi.org/10.5281/zenodo.10068996>

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SUMMARY

The data presented below show the features of the course of foot mycosis, the level of activity, clinical and immunological status and therapeutic management affecting it in patients with COVID-19. The article describes management for the targeted use of immunological treatment.

Keywords

COVID-19, immunological treatment, mycosis of the feet, effectiveness of treatment.

Mycoses of the feet and onychomycosis are considered the most common diseases among dermatomycoses, 10-20% of the adult population suffer from mycoses of the feet, men are 2 times more likely than women, older people are more likely than young people. Over the age of 70, mycosis of the feet is registered in every second patient. Currently, foot mycoses are often detected in children [1]. The disease is registered in almost all countries of the world [2]. The development of these dermatomycoses is most characterized by special exogenous and endogenous factors, such as immunosuppression, metabolic syndrome, including diabetes mellitus, wearing the wrong and uncomfortable shoes, the evolution of pathogenic and opportunistic fungi, population migration, dietary changes, low cultural level of the population. The penetration of fungi into the skin is facilitated by abrasions, cracks in the interdigital folds caused by scuffing, sweating or dryness of the skin, poor drying after water procedures, narrowness of the interdigital folds, flat feet, circulatory disorders in vascular diseases of the extremities, etc. [3].

Numerous studies in COVID-19 patients have revealed significant disorders in the immune system. With an increase in the number of patients, the clinical characteristics of COVID-19 become clearer, descriptions of new symptoms of the disease appear. Recently, a sufficient number of descriptions of various skin manifestations of COVID-19 have appeared, which are characterized by great heterogeneity [4]. The mechanism of development of skin rashes in COVID-19



patients remains a mystery today, but hypotheses have already been put forward about the presence of an overactive immune response, activation of the complement system and microvascular damage. The skin is the primary target for various immune reactions and is involved in the development of both systemic and local immune responses.

Vesicular eruptions often appear at the very beginning of the disease, and acral vesicular-pustular elements appear relatively late. Other skin manifestations may develop throughout the disease [5]. Skin rash can act as manifestations of a number of fungal (epidermophytia), bacterial (staphylococcal skin infections) and viral infections (enterovirus infections, herpes simplex, shingles, chickenpox) [6].

The coronavirus pandemic has led to outbreaks of various fungal diseases in all countries, including in our country. In the era of the new coronavirus infection, the number of patients with severe mycoses has increased. This is due to several circumstances. The first is the severe coronavirus infection itself. Severe coronavirus infection is characterized by powerful immunosuppression, with a violation of not only systemic, but also local immune defense mechanisms. The situation is aggravated by the very widespread use of systemic glucocorticosteroids and biological immunosuppressors. Their use negatively affects the systemic immune defense. They suppress immune reactions and can provoke mycoses. We must understand that such a problem exists.

Close attention of scientists is paid to the problem of foot mycoses with nail plate lesions, which is observed in 20-55% of patients with mycoses, especially among urban residents, elderly and senile people. Such mycoses are difficult to treat, inclined to recidivation [7].

Fungal skin diseases caused by dermatophytes are determined by a number of factors: pathogenicity and virulence of the pathogen, the immune status of the human body. The latter has a serious impact on infection and the course of the disease.

In addition to the characteristics of the pathogen (the type of fungus, its pathogenicity and virulence), a violation of the human body's defenses against fungal infection is important for the development of fungal diseases. Currently, nonimmune and immune mechanisms of protection against the introduction of pathogenic fungi are isolated [8].

Despite the large number of patients with mycosis of the feet, the time interval between the onset of the disease and the time appointment to see a doctor still remains long. This makes it difficult to detect the disease in the early stage and start treatment early, which leads to a further decrease in the immune status.



Coronavirus infection, in turn, aggravates the condition and leads to the development of complicated forms of the disease that complicate their treatment.

Below is our example of a case of the disease in a patient

Female patient N.H., born in 1960, visited Interdistrict Skin and Venereological Dispensary No. 8 of the Ashgabat district with complaints of feet rashes on the skin, interdigital folds.

Anamnesis morbi: considers herself ill for 4 months. The cause of development is associated with a cured coronavirus infection. In August 2022, she received inpatient treatment in a private clinic with a diagnosis of Coronavirus (COVID-19) infection, of moderate severity. Bilateral community-acquired interstitial pneumonia. Respiratory failure II degree. Obesity III-IV grade.

After inpatient treatment, the patient was concerned about general weakness, rapid fatigue.

2 months after the coronavirus infection treatment, the patient had feet rashes on the skin. According to the appointment of the district polyclinic doctor, the patient received treatment in the form of a Suprastin tablet and Dermovate cream. The skin process continued to spread and the patient made an appointment to see a doctor at Interdistrict Skin and Venereological Dispensary No. 8.

Anamnesis morbi: the patient grew up and developed in satisfactory conditions according to age. The previous illness: acute respiratory viral infection, COVID-19.

Status praesens objectivus: the general condition is satisfactory, the consciousness is clear, the position is active. The physique is correct, the constitution is hypersthenic. Subcutaneous fat is well developed. Musculoskeletal system without visible deformities. Peripheral lymph nodes are not enlarged, painless. There is vesicular breathing in the lungs, no wheezing. Heart tones are muffled, rhythmic, blood pressure – 140/90 mmHg, pulse – 88 beats per min. The tongue is moist, slightly overlaid with a white coating. The abdomen is soft and painless during palpation. The liver and spleen are not enlarged. [Pasternatsky sign](#) is negative on both sides. Diuresis is free, regular. Sleep and appetite are preserved. The nervous system is labile.

Status localis: The skin-pathological process is chronic, symmetrical, widespread, inflammatory and localized on the skin of both feet. The skin of the feet is dry, yellow in color, skin furrows are visible, visible mucoid peeling is noted. In the area of the heels, the presence of cracks is noted, accompanied by pain when walking. On the skin of both lateral surfaces of the feet, the presence of erosive rashes covered with hemorrhagic, in some places purulent crusts is noted. In the area of the interdigital spaces of the foot, the presence of scaling rash and cracks in

the depth of the fold is noted. Appendages of the skin: the skin of the head and nail plates are not involved in the process. Dermography: pink, itching and burning are noted.

Laboratory diagnosis:

Complete blood count: HGB – 110 g/l; RBC – 3.7; CP – 0.7; WBC – 8.2; Neutrophils – 51.3%; Eosinophils – 4%; Lymphocytes – 58.2%; Platelets – 240%; ESR – 17 mm/h.

Biochemical blood analysis: Total protein – 72 g/l; Total bilirubin – 8.6mmol/l, Conjugated – 2.0 mmol/l, Unconjugated- 6.2mmol/l; Glucose – 9.7mmol/l; Urea – 7.8mmol/L.

Urine analysis: Quantity – 30 ml; straw-yellow color; Epithelium – 5-6/1; Leukocytes – 6-7/1; Salts-phosphates – (3+).

Stool analysis: without pathology.

ELISA test for HIV: negative.

Ultrasound of internal organs: Fatty liver hepatitis II stage. Chronic cholecystopancreatitis.

The patient was referred for consultation by an endocrinologist. During the examination of the endocrinologist, the following concomitant diseases were revealed: Type II diabetes mellitus, of moderate severity. Obesity III grade.

Treatment:

Terbinafine 250 mg 1 tablet 1 time a day No. 28,

Oxymatrine 1 capsule 3 times a day for 1 month,

Local application to the affected skin with 3% alcohol solution of iodine for 10 days,

Applying 1% Terbinafine cream 2 times a day for 3 months.

By appointment of an endocrinologist, the patient was prescribed Metformin 1000 mg, 1 tablet 2 times a day continuously.

From the received therapy, the resorption of elements was noted. The patient was left under the supervision of the doctor from Interdistrict Skin and Venereological Dispensary No. 8. and an endocrinologist at the place of residence polyclinic.

Before treatment



Second month of treatment



After treatment



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