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MODERN TREATMENT OF ONYCHOMYCOSIS

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Introduction

Onychomycosis is a fungal infection of the nail plates, which is one of the most common dermatological problems. According to the World Health Organization, the incidence of onychomycosis is 10 to 20% among the adult population [1]. This disease not only causes a cosmetic defect, but can also lead to complications, including secondary bacterial infections. In this regard, the search for effective methods for diagnosing and treating onychomycosis remains an urgent task of modern medicine.

Keywords: Dermatophytes; itraconazole; nail discoloration; onychauxis; onycholysis; subungual hyperkeratosis; terbinafine.

Onychomycosis is a fungal infection of the nails that affects both the nail plate and surrounding tissue [2]. It is one of the most common dermatological pathologies caused by various types of fungi, including dermatophytes, yeasts and molds. Onychomycosis remains a pressing health problem worldwide.

Its importance is due to the following factors: High prevalence - up to 10-20% of the population suffers from onychomycosis, especially among the elderly, patients with diabetes, immunodeficiencies and vascular diseases. Complexity of treatment - long-term therapy (from several months to a year), high probability of relapse and a limited choice of effective drugs [4]. Transmission of infection - fungal infection easily spreads in families, public places (swimming pools, saunas, gyms). Cosmetic and psychological consequences - changes in nails (thickening, deformation, discoloration) cause discomfort and affect the quality of life of patients [5]. Association with other diseases – onychomycosis can be a marker of systemic pathologies (diabetes mellitus, immunodeficiencies) and predispose to bacterial complications.

These factors make onychomycosis a significant medical and socio-economic problem that requires effective strategies for prevention, diagnosis and treatment.

Causes and risk factors

The main pathogens of onychomycosis:

• Dermatophytes (Trichophyton rubrum, Trichophyton mentagrophytes, etc.)

• Yeast fungi (Candida spp.)

• Mold fungi (Scopulariopsis brevicaulis, Aspergillus spp., etc.)

Factors that contribute to the development of infection:

• Increased humidity and sweating of the feet

• Tight and poor-quality shoes

• Decreased immunity

• Diabetes

• Old age

• Damage to the nails

• Visiting public places (swimming pools, saunas, gyms)

Symptoms

• Change in nail color (yellow, brown, white)

• Thickening and fragility of the nail plate

• Deformation of the nail

• Delamination and destruction of the nail structure

• Itching and discomfort in the affected area

Modern diagnostic methods The following methods are used for accurate diagnosis of onychomycosis:

1. Microscopy – examination of the nail plates under a microscope using potassium hydroxide.

2. Culture method – sowing material on nutrient media to identify the type of pathogen.

3. Polymerase chain reaction (PCR) – detection of fungal DNA, which allows for quick and accurate identification of the infection.

4. Laser diagnostics – an innovative method based on spectroscopic analysis of nail tissue.

Modern treatment methods Treatment of onychomycosis involves a comprehensive approach, which includes drug therapy, hardware methods and preventive measures.

1. Systemic antifungal therapy

o Use of oral medications such as itraconazole, terbinafine, fluconazole.

o Pulse therapy, in which medications are taken in short courses to minimize side effects.

2. Local treatment

- Antifungal varnishes (ciclopirox, amorolfine).

- Creams and ointments containing terbinafine, ketoconazole or naftifine.
- Keratolytic patches to remove the affected nail plate.

3. Hardware treatments

- Laser therapy – destruction of fungal infection using high-intensity radiation.
- Photodynamic therapy – use of light-sensitive substances and laser.

4. Surgical removal of the nail

- In extreme cases, complete or partial removal of the nail plate may be required.

Prevention of relapses

• Maintaining personal hygiene.

• Using antifungal powders and sprays for shoes.

• Regular disinfection of manicure instruments.

• Avoiding wearing tight and uncomfortable shoes.

Conclusion. Onychomycosis is a serious problem that requires timely diagnosis and comprehensive treatment. Modern methods of therapy include systemic and local antifungal drugs, hardware techniques and preventive measures. Advances in laser and photodynamic therapy open up new prospects in the fight against this disease. Timely referral to a specialist and compliance with the doctor's recommendations help to avoid complications and achieve complete recovery.

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