EXPERIENCE OF TREATMENT FOR FUNGAL DISEASES IN POLTAVA REGION

Vasylyeva Kateryna
Ph.D., Associate Professor
Poltava State Medical University (Poltava)

Bezeha Olena
Assistant
Poltava State Medical University (Poltava)

Yemchenko Ya.
Ph.D., Associate Professor
Poltava State Medical University (Poltava)

Fungal diseases or mycoses are one of the most common forms of dermatological pathology [1,2, 7]. According to domestic and foreign authors, there is an increase in the number of patients with fungal diseases affecting the skin, nails, hair and mucous membranes [1, 3,8,9].

According to WHO, every fifth inhabitant of our planet suffers from a fungal disease [1,4,7,8]. More often it is dermatophytosis, mycoses are caused by dermatophytes (fungi of the genus Trichophyton, Microsporum, Epidermophyton, Candida and mold fungi), the frequency of isolation of mixed fungal-bacterial flora has increased [1,2, 3].

According to the latest data, the frequency of infection with mycoses in Europe is from 20 to 70%, and in Ukraine 25-30% [1,9]. In the Poltava region, there is a tendency to increase the incidence of mycoses. For example, in 2021 the incidence of fungal diseases decreased compared to 2020 - 338 cases 20.7 issues. per 100 thousand population and 393 - 23.7 per 100 thousand population, respectively, then for 9 months of the current it increased by 1.7% compared to 2021 [1, 2].

In Ukraine, over the past decades, there has been an increase in diseases caused by Trichophyton rubrum, interdigital trichophyton [2,8,9]. As a rule, they occur against the background of visceral pathology (metabolic disorders, neuroendocrine changes, diseases of the gastrointestinal tract, circulatory disorders, immunodeficiencies, nail injuries).

The fact that the mycotic process can spread not only to foci of the skin and mucous membranes, but can also be on remote areas of the skin, affect nails (onychomycosis), mucous membranes of the genital organs, eyes, mouth. , gastrointestinal tract [3, 4] to be a particular interest to dermatovenerologist.

The frequency of fungal infections increases for a number of reasons: more active use and uncontrolled use of broad-spectrum antibacterial drugs, chemotherapy drugs, immunosuppressants and other drugs that reduce the ability of the human saprophytic flora to prevent the overgrowth of pathogenic fungi, an increase in the number of patients with immunodeficiency. Immunity disorders against the background of

environmental and other exogenous influences, occupational hazards in some categories of persons whose nature of activity contributes to increased sweating and insufficient ventilation of the skin [8,9,10].

Infection with fungal infections usually takes place by contact in baths, swimming pools, fitness clubs, saunas, etc. in public places.

Recently, the question arises of the choice of therapy for fungal diseases of the skin, mucous membranes, and onychomycosis. Currently, there are many antimycotic agents, so it is possible to conduct individual treatment of patients with dermatomycosis using both general antimycotic therapy and local [5,6,8].

The aim of the research. We studied the antifungal activity of antimycotic drugs: Lamisil (terbinafine), Orungal (itraconazole), Exifine (terbinafine), Nizoral (ketoconazole), Fluconazole, Griseofulvin and topical application of Micogal (omoconazole), Mycospor (fluconazole), Nizoral (ketoconazole), Clotrimazole, Terbinafine , Itraconazole, Undecin, Mycoseptin, Cyclojen (cyclopirox).

Materials and methods. Under our supervision there were 154 patients with various mycotic lesions aged 17 to 68 years, of which 86 (55.8%) were male and, respectively, 68 (54.2%) were female. All patients were treated at the Municipal Enterprise «Poltava Regional Clinical Dermatovenereological Dispensary of the Poltava Regional Council». The duration of the disease ranged from 2 weeks to 3 years. Microscopic examination and culture were used to detect pathogens. In all patients before treatment, the clinical diagnosis was confirmed by laboratory tests.

Griseofulvin was administered according to the classical scheme. For the first 2-4 weeks (until the first negative test for a parasitic fungus), the drug was administered daily at the rate of 22 mg/kg of body weight (the daily dose was divided into 3 doses). After the first negative test for parasitic fungi, the drug was administered at a similar dose every other day, after three negative tests for parasitic fungi (tests were performed every 5 days), griseofulvin in a daily dose was prescribed 2 times a week for another 2 weeks. Terbinafine preparations were also prescribed according to the generally accepted scheme. Therapy with systemic antimycotics was carried out against the background of generally accepted external therapy (head shaving once every 5 days, epilation of lesions located on smooth skin once every 5 days, lubrication with 2–5% iodine solution, fungicidal ointments. [2,5]. The effectiveness of treatment was the rate of clinical regression of lesions, the timing of registration of the first and third series of negative results of microscopic examination.

Table 1. Distribution of patients by diagnosis

Tinea capitis	28
Microsporia of smooth skin	11
Trichophytosis Capitis	7
Vaginal Candidiasis	9
Candida periodontitis, gingivitis	8
Candida balanoposthitis	6
Rubromycosis of feet	18
Onychomycosis is caused by Trichophyton rubrum	32
Onychomycosis is caused by Trichophyton mentagraphy	16
Pityriasis versicolor is caused by M. furfur	12

Choosing the appropriate treatment, we were guided by the following principles: local treatment was used for onychomycosis with a distal, lateral, distal-lateral type, with a lesion area of up to 50%, if the matrix is not affected and not all nails are infected; also with microsporia of smooth skin with single lesions, candidal lesions of the mucous membranes, rubromycosis of the feet, lichen multi-colored, patients with liver pathology. In other pathologies, general therapy with antifungal antibiotics was prescribed in parallel.

Table 2. Drugs for various fungal infections

Name of diseases	**Treatment**	
	General	**Topical**
Tinea capitis Trichophytosis Capitis	Terbinafine 6 mg/kg a day 1 month, Itrakonazole 5 мг/кг mg/kg a day 1,5 month, Griseofulvin mg/kg a day,	Cream Lamisil, Orungal, Exifine, ointment Mikosist, Exoderil
Candidiasis	Terbinafine 250 mg a day, Flukonazole 50 – 100 mg a day 14 – 30 days or 150mg once, Nistatin 500k units 3-4 times a day	Cream Pimafucin (natamicyn), Dermazol, Lamisil, Exoderil, Klotrimazol, Nizoral, Cyclojen
Onychomycosis	Terbinafine 250 mg a day	Cyclojen cream and nail polish
Toenail fungus	Terbinafine and Itrakonazole as a usual scheme, Ketokonazole 200 mg 1 time a day 4 month.	Cream Mikospor, Lamisil, Mikonazol, Exoderil, Cyclojen, Cyclojen nail polish, Loceril, Batrafen, Oflomil (amorfiline), keratolytic products
Microsporia of smooth skin		Cream Lamisil, Orungal, Exifine, Cyclojen, ointment Mikosist, Exoderil
Rubromycosis of the feet		Cream Nizoral, Milospor, Mikogal, Cyclojen
Pityriasis versicolor is caused by M. furfur		Solution Nitrofungin, Cream Mikrospor, Cyclojen

Results of the research. As a result of treatment, clinical and etiological recovery was achieved in all 154 patients. The duration of therapy ranged from 10-14 days to 4-6 months, depending on the location of the pathological process. The best effect in treatment was achieved by combining general treatment with local. We noted the high efficiency observed with topical application of a relatively new drug Cyclojen (cyclopirox).

Table 3. Results of treatment

Name of diseases	**Improvement, day**	**Reduce itching, day**	**Recovery, day**
Tinea capitis	15	1	30 - 50
Microsporia of smooth skin	7	1	14
Trichophytosis Capitis	16	2	30 - 50
Vaginal Candidiasis	-	5	16
Candida periodontitis, gingivitis	5	4	14
Candida balanoposthitis	4	2	10
Rubromycosis of feet	8	4	16
Onychomycosis is caused by Trichophyton rubrum	20	4	4-6 month
Onychomycosis is caused by Trichophyton mentagraphy	16	4	4-6 month
Pityriasis versicolor is caused by M. furfur	7	5	12

We noted that in the treatment of these patients, all of the above drugs were effective. The best effect in treatment is achieved with a combined general treatment with local. A wide range of antifungal antibiotics allows to determine the drug individually. When using Lamisil (terbinafine), Orungal (itraconazole) in general or combined treatment, the duration of treatment was significantly reduced. Also, high efficiency was noted with the topical application of a new drug Cyclojene (cyclopirox), but given the rather high cost of these drugs and the difficult financial situation of the majority of the population, it is possible to recommend the use of more affordable drugs.

References

1. Лаврушко С.І. Спосіб комплексного лікування хворих на мікроспорію волосистої частини голови та хворих на мікроспорію волосистої частини голови і гладенької шкіри/ Лаврушко С.І., Степаненко В.І., Дудченко М.О.//Патент на корисну модель №118491 від 10.08.17 Бюл.№15
2. Николенко М. В. Современные подходы к систематике патогенных и условно-патогенных грибов / М. В. Николенко. – Успехи медицинской микологии. – 2019. – Т. 20. – С. 43-46.
3. Патогенні гриби: метод. вказ. з дисципліни «Мікробіологія, вірусологія та імунологія з мікробіологічною діагностикою» для студентів бакалаврів II–IV курсу за спеціальністю «Лабораторна діагностика» / упоряд. В. В. Мінухін та ін. – Харків: ХНМУ, 2016. – 76 с.
4. Сергеев А.Ю. Грибковые инфекции / А.Ю. Сергеев, Ю.В. Сергеев // Руководство для врачей - 2003. - 440 с
5. Супрун К. Г. Лікування грибкової інфекції на сучасному етапі / К. Г. Супрун, І. О. Олійник // Дерматологія та венерологія. – 2020. - № 2 (88). – С. 24-28. doi: https://doi.org/10.33743/2308-1066-2020-2-24-28
6. Резніченко Н. Ю. Оптимізація лікування мікозів шкіри з використанням антимікотику зовнішньої дії / Н. Ю. Резніченко, А. О. Алдошина // Дерматовенерология. Косметология. Сексопатология. – 2018. – № 1-4. – С. 161-165.
7. Bendjaballah-Laliam A, Djazer H. Epidemiology of Tinea capitis in the suburbs of Tipasa, Algeria. J Mycol Med. 2014;24, N 2:141-143.

8. Leite Jr, Amadio JV, Simoes Sde A, et al. Dermatophytosis in military in the central-west region of Brazil: literature review. Mycopathologia. 2014;177(1-2):65-74.
9. Prohić A. An epidemiological survey of tinea capitis in Sarajevo, Bosnia and Herzegovina over a 10-year period. / A.Prohić // Mycoses. - 2008. - № 51. – P.161-164.
10. Rebollo N. Tinea capitis. / N.Rebollo, A.Lopez-Barcenas, R.Arenas // Actas Dermosifiliogr. – 2008. - № 99. – P. 91-100.