

Mycotic infections. Chemical-toxic burdens of the external environment, as factor conducive to the attack of fungal infection

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Today, mycology is rather poorly represented in educational programs. There are too few specialists in classical taxonomy. Not so long ago, little importance was attached to fungi as possible causative agents of infection in humans. The situation is paradoxical, considering that the fungus was one of the first identified as the causative agent of infectious diseases, however, it was identified in diseases of silkworms.

Usually people knew that fungal manifestations, as a rule, are lesions of the skin and mucous membranes, which are treated by dermatologists. However, clinicians often noted a deeply localized fungal infection in cancer patients, and sometimes invasive mycosis in organ transplants. It was also found that when traveling with a visit to areas favorable for endemic species of fungi, patients were often diagnosed with histoplasmosis, blastomycosis, coccidioidomycosis, sometimes in a very severe form and with a fatal outcome.

However, fungal infections remain a relatively minor and undeveloped area of medicine compared to viral and bacterial infections. But we must remember that mycoses are diseases caused by fungi that infect not only animals and plants, but also humans.

Mycoses develop slowly, recur more often than a bacterial infection, and do not leave behind long-term immunity. Sometimes fungal infections are accompanied by only mild inflammation, but there are also processes with the formation of chronic abscesses, ulcers and tumor granulomas, consisting of connective tissue. Mycoses can be progressive and even cause death of the patient. Currently, there are medications that slow down the reproduction of fungi, but so far there are no ones that would completely destroy them.

Distinguish between systemic mycosis, which spreads to the entire body, and dermatomycosis, in which the skin, hair or nails are affected. It should be borne in mind that recently, according to our observations, lesions in systemic mycosis often resemble the clinic of tuberculosis or advanced syphilis. This type of mycosis is much more severe. The main problem with mycotic lesions is that there is no obvious inflammatory process, the difficulty of detection in the early stages, the introduction of antibiotics into the culture media during laboratory diagnostics, and immunosuppression. It turns out that in our time, especially for people with a weakened immune system, there are no non-pathogenic fungi. Therefore, a group of opportunistic mycoses now falls under special attention: aspergillosis, candidomycosis, mucoroidosis, penicillosis, pneumocystosis, actinomycosis, zygomycosis, fusarium, cryptococcosis.

In addition to numerous other reasons, clinically unclear brucellosis, toxoplasmosis, and tuberculosis can be identified as the cause of immune disorders that contribute to the activation of the fungus. Patients with chronic mycosis candidiasis have a higher level of antibodies and, above all, lesions of the thyroid and gonads are noted during testing. Diagnosis and elimination of factors contributing to immunosuppression, such as: the consequences of mental trauma, chemical burden, modern insecticide treatment of vegetables and fruits, food intolerance and allergy greatly simplifies the diagnosis of mycotic lesions, increases the reliability of our testing and the effectiveness of the treatment.

In the field of medical mycology, the following can be distinguished:

1. Allergic diseases. Mushrooms are undoubtedly among the main causes of allergies. Mycogenic allergy is widespread and a serious problem. But this effect of fungi is due to immunological hypersensitivity (individual predisposition), and not infection. For example, hay fever is very often caused by fungal spores, among other factors. More than 200 species of mushrooms have a purely allergic effect, the *cladosporium herbarium* and *aspergillus fumigatus* are especially active. Allergic processes, like pseudoallergic ones, chronically burden the immune system and can be an obstacle to well-chosen therapy. They also contribute to the development of intestinal mycosis. For example, phosphate intolerance as a pseudo-allergen is widespread. Now patients' reactions to the shells of cereals of rye, wheat, rice, oats are often tested, especially when feeding on their seedlings. This group also includes soybeans, nuts, artificial lemonades and phosphate-containing preservatives in sausages, wieners and hamburgers. In the presence of this intolerance, the appointment of Natrium phosphoricum D4 or D6 is necessary, especially if the patient has a hyperkinetic syndrome.

2. Mycetism (mushroom poisoning) - the consequences of eating mushrooms, producing toxins range from mild gastrointestinal disturbances to fatal liver blockage. In this case, the action of fungi is also not due to infection, but belongs to the field of toxicology. Treatment in this case requires a fairly long-term normalization of liver function and restoration of its detoxification function.

3. Mycotoxicosis. For many fungi, the formation of secondary metabolites (there are more than 1000). There is a conditional division into fungi that produce mycotoxins and antibiotics. It should be noted that there are also beneficial metabolites. For example, citric acid is produced by several species of *aspergillus*.

A number of fungi, in particular *Aspergillus* and *Fusarium* species, form secondary metabolites (mycotoxins) that have a toxic effect on humans and animals. When ingested with food or air, they cause clinical manifestations and diseases, including serious neurological complications. The most widely known:

a) mycotoxins *Aspergillus flavus* - aflatoxins. Once in the body, they affect the liver, causing primary liver cancer, have a mutagenic and carcinogenic effect on DNA and RNA, and lead to deep destructive disorders of the immune system. The toxic and carcinogenic effect of these mycotoxins will be especially pronounced with a decrease in proteins in the patient's diet;

b) *Fusarium sporotrichiella* - this food mycotoxicosis develops when eating cereals stored for a long time. There is a decrease in hematopoiesis and the development of a picture of anemia, leukopenia, thrombocytopenia, alimentary-septic aleukia with the development of septic sore throat and complicated hemorrhagic syndrome. This nephrotropic toxin also contributes to the development of tumors of the urinary system. This group also includes poisoning with "drunken bread", namely, the mycotoxin *Fusarium graminearum*. Kashin-Beck's disease with impaired osteogenesis, growth retardation and skeletal deformity in children also has an alimentary-toxic etiology and is associated with infection of grain crops with the *Fusarium* fungus;

c) *claviceps purpurea* - a purple ergot mushroom secretes a psychotropic mycotoxin, which causes poisoning (ergotism), "evil cramps", contraction of smooth muscles, inhibition of serotonin, adrenaline and the occurrence of hallucinations;

d) mycotoxin patulin in apple juice, moldy bread, in fermented mushrooms in sausage causes a violation of cellular respiration and permeability of the cell membrane;

e) antibiotics (penicillin, streptomycin, tetracycline). Established teratogenic and the mutagenic effect of antibiotics, associated with their interference in the process of protein synthesis and the transmission of hereditary information. Antibiotics, widely used in veterinary medicine and as a biogenic plant protection agent, inevitably enter the human body with food.

Conclusion: mycotoxicosis is not an infection, but the result of exposure to chemical compounds (toxins).

The methods of ART and BRT achieve quite good results of treatment, detoxification and restoration of the affected organs and systems.

4. Mycoses - these diseases are caused by the ability of macro and microscopic fungi cause infections in humans and animals. In the spread of mycoses, an important role is played by: hypo- and agammaglobulemia; diabetes; widespread use of antibiotics; immunosuppressants; corticosteroids; oral contraceptives, etc.

It should be borne in mind that all fungi are resistant to chemical and physical influences, relatively radioresistant, little sensitive to UV and X-ray radiation, and their spores die at the temperature of the volt arc. Moreover, radiation in low doses, like the use of oral contraceptives, sharply stimulates their growth.

Today, the problems associated with fungi have become one of the most significant in medicine and are especially relevant in the treatment of patients with impaired immune status.

The modern improvement in diagnostics, the almost incredible earlier possibilities of medical intervention and the development of biomedical research have provided a person with greater prospects for recovering health than before. But medical progress also has a downside. Measures against the underlying disease often lead to a violation of the immune status, and mycoses act here as a serious complication. For example, during operations, especially on the organs of the gastrointestinal tract, candidal sepsis caused by a nosocomial infection is possible as a complication. One of the most important established causes of the spread of mycotic lesions is inappropriate use and dosage of antibiotics. In the 1980s, *Candida* became the fourth cause of hospital sepsis in the United States, ahead of *Escherichia coli*. And some types of mushrooms, for example, *Candida glabrata*, became the most dangerous pathogens. For example, tomato fungi can currently cause severe invasive sinusitis in humans, which will be treated by mainstream doctors again with antibiotics. As the consequences of the unlimited use of antimicrobial agents, scientists state the resistance of microorganisms to drugs, the replacement of normal flora with an alternative one that can cause a new pathology and the spread of mycotic diseases.

One of the factors favoring the development of a fungal infection, to which little attention is paid in clinical practice, is the chemical-toxic burden of the environment, which should be detected at the very first medical appointment. Anamnesis data, the patient's professional activity and living conditions help to determine this. Typically, these toxins are tested in the autonomic nerves plexus. The development as a result of this pathological autonomic regulation entails the emergence of local degenerative changes and even oncological processes. Also, many environmental chemical toxins contain free radicals and

Pointer to intoxication Intox I (Intox II)	Weight group	Type of burden
Chromium met. D400 Chromium met. D30 / 60/400	Medicines	Antibiotics Anti-tuberculosis Analgesics Hormones Penicillinum D6 Streptomycinum D6 Sulfanilamidum D6 Cortison d6 Tetracycline D6 Ostro / gesta-comb. D6
Chromium met. D400 Chromium met. D30 / 60/400	Heavy metal salts	Mercurius Solub.D30 Plumbum met. D6 Cadmium met. D6 CA-MG- phosphate D6 Cuprum met. D30 Aluminum met. D30 Niccolum met. D30 Chromium met. D30 Cobaltum met.D30 Zincum met. D30 Anorg.fluorverb. D30 Org.fluorverbindung D30 Siberamalgam D30 Non gamma2amalgam D30
Chromium met. D400 Chromium met. D30 / 60/400	Insecticides K11 (Dichl.) K12 (HCH) K14 (HCH comb.A) K15 (HCH comb.B)	Dichlorvos, methoxychlor; Lindane (hydrocarbons); Lindane, Bromophos Pyrethrum Lindane, Dieldrin, Feverfew
	Herbicides	Pentachlorophenol D6 Dorphosphazine D6 Paraquat D6 Aminotriazole D6 Atrazine D6
	Environmental toxins	Toluene D6 Sulfuric acid D6 Formaldehyde D12 Benzpyren D6 Benzene D12 Gasoline D6 Chlorine D6

It should be especially noted that after the removal of silver amalgam by dentists, patients should be prescribed Sulfur D6 (to remove mercury salts) for one, or maybe two months. At the same time, an abundant drink must be prescribed at this time. Argentum nitr preparations can be tested additionally. or Argentum met. For

For detoxification of chemical toxins, ONOM preparations have proven themselves well: DIS9; DIS3; DIS16; DIS11; DIS7. Removal of chemical toxins requires consistency and consistency, because a person encounters these toxic loads every day at home, at work, on the street, in the subway, while eating. Therefore, it is very important to teach the patient to apply at least the basics of mesenchymal reactivation.

On the question of the use of nosodes in the diagnosis and treatment of mycoses. This direction is very grateful. In this case, nosodes can be considered as immunomodulators that can stimulate immunity to related microorganisms and increase the body's nonspecific immunoreactivity. By filtering the fungal nosode through the Chromium met. D200 can be determined whether it is an isonosode, that is, it reflects an etiological factor (the original measurement level is restored) or a homeonosode, that is, it is selected according to the principle of similarity (the original measurement level is not restored). Iso- and homeonosodes can be used in the treatment of mycoses, subject to their effectiveness and tolerance. The use of nosodes in treatment, especially in potency above D30, should always be combined with homeopathic drains or preparations, which improve regional lymphodynamics. It should be noted that nosodotherapy must necessarily be carried out against the background of a balanced acid-base state. The development of many mycoses is based on the change in acidosis towards acidosis in the tissues. In this case, the pH of the blood can remain within the normal range (7.37–7.43) or shift towards the alkaline side.

Thus:

1. The main advances in medicine, achieved over the past 20 years, are so important for maintaining human health, have a shadow side - a significant increase in the incidence of infectious diseases due to dysfunction of the immune system. Such opportunistic infections have become a major medical problem today. Fungi have played and continue to play a significant role as causative agents of such infections.

2. Not only the number and severity of fungal infections increased, but also the variety of fungi as an etiological factor present in air, soil or on organic debris. They are now becoming deadly, especially for people with suppressed immune systems. At the same time, the increase in the number of fungal diseases in our consumer world is an indicator of a slow deterioration in the functions of the immune system in humans, animals and plants.

3. Chemical and toxic environmental burdens as one of the important factors, favorable for the development of fungal infection, makes it necessary to test the existing toxic loads from the very first sessions and include active schemes of mesenchymal reactivation in treatment plans.

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Frolova, L.A. Mycotic infections. Chemical-toxic burden of the external environment as a factor conducive to the attack of fungal infection / L.A. Frolova // XXII International Conference "Theoretical and Clinical Aspects of the Application of Bioresonance and Multiresonance Therapy". - M .: IMEDIS, 2016 .-- S.194-202.

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