



ECOPATHOGENS AND IMMUNOSUPPRESSION

Berdimurodova Shaxzoda Yodgorovna

Student of Tashkent State Medical University

Abstract. *This article presents new information on the negative consequences of exposure to environmental pathogens. In developed countries, numerous cases of overexposure to environmental pathogens have been observed. The uncontrolled spread of abiotic factors in the atmosphere leads to problems related to human health. As a result of the impact of environmental factors on the immune system, a failure in the functioning of the protective systems of living organisms occurs. This indicates a connection between the immune system and pathogens.*

Keywords: *Chemical compound, immune system, infectious diseases, allergy, ecopathogens, immunosuppression, therapy, metabolism, abiotic factors, infection, xenobiotics.*

Аннотация. *В статье представлены новые сведения о негативных последствиях воздействия патогенов окружающей среды. В развитых странах наблюдается множество случаев передозировки целевых продуктов. Неконтролируемое распространение абиотических факторов в атмосфере приводит к проблемам, связанным со здоровьем человека. В результате воздействия факторов окружающей среды на иммунную систему происходит сбой в работе защитных систем живых организмов. Это свидетельствует о наличии связи между защитной системой и патогенами.*

Ключевые слова: *Химическое соединение, иммунная система, инфекционные заболевания, аллергия, экопатогены, иммуносупрессия, терапия, метаболизм, абиотические факторы, инфекция, ксенобиотики.*

Annotastiya. *Mazkur maqola atrof-muxit bilan bogliq ekologik patogenlarning salbiy oqibatlari tuzriscida yangi ma'lumotlarni ta'dbiq etadi. Rivojlangan mamakatlarda maqsadli ishlatiladigan*



махсулотларнинг меъёрдан ошиши билан боғлиқ ҳолатларни кўплаб учратиши мумкин. Атмосферада абиотик омилларнинг сабабсиз тарқалиши инсон саломатлиги билан боғлиқ муаммоларга сабаб бўлади. Экоотилларнинг имтун тизимига та'сир оқибатида, тирик организмларнинг химоя тизими ишдан чиқади. Бу эса химоя тизими билан касаллик қо'зқ'атувчилар орасида боқ'лиқлик борлигини белгилайди.

Kalit so'zlar: *Kimyoviy birikma, immun tizimi, yuqumli kasalliklar, allergiya, ekopatogenlar, immunosupressiya, terapiya, metabolizm, abiotik omillar, infektsiya, ksenobiotiklar.*

Insecticides used in the environment have a specific effect on the immune system of living organisms. As a result of a weakened immune system, unable to respond to such attacks, various diseases develop. All abiotic factors and ecopathogens have toxicological mechanisms of action.

The immune system's role in ensuring the healthy functioning of a living organism is unparalleled. It performs unique functions essential to the healthy functioning of a living organism. Environmental factors, as well as various microorganisms, act as stressors and suppress the natural protective functions of the innate and adaptive immune systems. This underlies the development of various diseases.

Immunosuppression is a condition in which the immune system responds to external factors. This leads to the development of acquired immunodeficiency syndrome. Thus, immunosuppression or immunodepression directly affects the functions of the immune system.

Excessive use of insecticides, pesticides, and heavy metals used in industry primarily has varying effects on the immune system. Specifically, the immune system of organs and tissues damaged by certain heavy metals is restored within a few days by various antibodies.

The degree of impact of ecopathogens on the immune system is also determined by chemical compounds. Moreover, disruptions in the immune system's



protective function can also lead to the development of infectious processes. This indicates a connection between the immune system and pathogens.

Secondary immunodeficiency is currently considered a syndrome caused by various abiotic factors and infectious diseases. Dynamic monitoring of the immune system in individuals exposed to these factors revealed the following patterns: allergic diseases were regularly observed in individuals exposed to phospholone and a number of similar pesticides. Pesticides can cause various immune system disorders by affecting oxidative stress, mitochondrial changes, membrane permeability, and other organ and tissue parameters. All environmental factors have a toxicological effect.

Literature has shown that most diseases associated with immune system function occur in the respiratory and gastrointestinal tracts. Impaired immune function increases the sensitivity of living organs and tissues to various environmental factors. This negatively impacts the body's functioning, triggering a number of external influences. As the body weakens, the likelihood of pathogenic microorganisms entering it increases.

Based on the above, and relying on information from literature and Internet resources, it can be said that environmental factors contribute to the occurrence of diseases associated with impaired immune system function. It has been shown to cause cancer, respiratory disease, systemic failure, nervous system disorders, and asthma. Some patients with kidney disease have experienced urinary incontinence and other pathological conditions.

Acclimatization is necessary to protect a living organism from diseases caused by abiotic factors. Environmental acclimatization is a mechanism that restores the protective functions of the body's immune system. This mechanism serves to strengthen the immune system, which is essential for the body's survival and fights off those that have a harmful effect on organ tissue. It strengthens the immune system and activates its natural defense mechanisms. For example, by regulating the immune system, it reduces the sensitivity of organs and tissues to various factors.



It is necessary to adhere to developed programs for the correct use of various insecticides, regularly conduct sanitary and hygienic inspections and replace them if necessary. Because abiotic factors and ecopathogens are inherently toxic substances, public health experts are concerned about their negative impact on health.

The immune system responds to the direct effects of environmental factors that cause disease in living organisms. It stimulates their functional state and seeks protective mechanisms. It regulates immunity in the presence of inflammation and tumor cells. In this case, lymphocytes and antibodies participate in reducing the concentration of pathogens foreign to the body.

To prevent diseases caused by ecopathogens, it is necessary to develop measures to control factors that damage the immune system.

Polarized light is currently widely used in healthcare. It penetrates living tissue to a depth of 2–2.5 cm and effectively stimulates the immune system, normalizes metabolism, activates internal organs, eliminates chronic inflammatory processes on the skin's surface, heals stomach ulcers, and more.

In response to the above, it can be concluded that it is necessary to consider the immunotoxicity of factors used or prohibited for use, as well as their impact on various immune cells and leukocytes, including macrophages. To prevent the development of immune system diseases, regular sanitary and hygienic examinations are necessary.

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