ABIOTIC FACTORS. IMMUNODEPRESSION

Zukhriddinova Sevinch Ilhomovna

Student of Tashkent State Medical University

Аннотация. *За последние пять лет учёные выявили случаи иммунодепрессии, связанной с изменениями в экологии. В результате иммунодепрессии иммунная система теряет способность выполнять свои естественные защитные функции. Поскольку контроль и регуляция системы ослабевают. Ослабленная иммунная система не может реагировать на атаку патогенов.*

Значительное увеличение воздействия факторов окружающей среды на здоровье человека вызывает беспокойство экспертов в области здравоохранения.

Ключевые слова: *Иммунодепрессия, абиотические факторы, клетка, инсектицид, иммунитет, экофакторы, функция, орган-ткань, экотизм, барьер, защита, слабость, клетка, система, характеристика.*

Abstract. *Over the past five years, scientists have identified cases of immunosuppression associated with environmental changes. As a result of immunosuppression, the immune system loses the ability to perform its natural protective functions. Because the control and regulation of the system is weakened. A weakened immune system cannot respond to an attack by pathogens.*

The significant increase in the impact of environmental factors on human health is causing concern among health experts.

Keywords: *Immunosuppression, abiotic factors, cell, insecticide, immunity, ecofactors, function, organ-tissue, ecotism, barrier, protection, weakness, cell, system, characteristic.*

In recent years, environmental issues have led to an increase in the influence of abiotic factors. Abiotic factors associated with ecology have a negative impact

on living organisms, contributing to the development of various diseases. In recent years, environmental problems have led to an increase in the influence of abiotic factors. This initially affects the immune system, up to the suppression of its function. As a result, immunodepression occurs, independent of the organism.

So, immunodepression or immunosuppression is a weakening of the immune system's defenses.

As is known, the immune system is a natural defense system that allows a living organism to survive in the environment from various pathogens; она контролирует воздействие инфекционных агентов и борется с их атаками; it forms the body's immunity to various tumors; controls the reaction of leukocytes to foreign agents; regulates the function of cells involved in protection against pathogens; establishes connections with cells, indicating where they should go and what to do; forms a natural protective barrier in organ tissues; thereby prevents immunodeficiency; unites cells against weakening of the immune system; controls the release of useful components; delays foreign agents entering the body; renews damaged cells; creates conditions for the creation of natural leukocytes that support themselves and heal damaged ones.

In areas where abiotic factors are constantly present, immunodepression is observed, which leads to the development of various diseases of the respiratory tract and cardiovascular system.

Abiotic factors act on T-cell receptors, suppressing their ability to produce and multiply cytokines. They disrupt the activation of the immune system, which leads to the suppression of protective reactions to self-antigens.

The above-mentioned ecosystem problems can negatively affect the functional state of a living organism and cause immunosuppression.

Immunodeficiency develops in patients with immunosuppression. This facilitates the penetration of various abiotic factors into organs and tissues. As a result of the influence of environmental factors on the activity and effectiveness of immunity, immunosuppressive conditions arise in other parts of the system. An organism with suppressed immunity is called weak or immunocompromised.

A weakened immune system reacts passively to external influences. Environmental factors, infections, and insecticides can aggravate autoimmune diseases.

Autoimmunity is the immune system's response to healthy cells, tissues, and various components of the body. Pathological conditions that arise as a result of the resistance of this system are called autoimmune syndromes. Examples of such conditions are diabetes, vascular diseases, arthritis, arthrosis, dermatomyositis, multiple sclerosis, and other pathological conditions.

Thus, the immune system performs very important functions to maintain human health. However, in some cases, it cannot perform its functions. For example, exposure to environmental factors, pathogens and heavy metals in the environment can lead to a weakening of the immune system.

LIST OF REFERENCES

1. A Emsley, H. C., & Hopkins, S. J. (2010). Post-stroke immunodepression and infection: an emerging concept. Infectious Disorders-Drug Targets (Formerly Current Drug Targets-Infectious Disorders), 10(2), 91-97.
2. Haeusler, K. G., Schmidt, W. U., Föhring, F., Meisel, C., Helms, T., Jungehulsing, G. J., ... & Volk, H. D. (2008). Cellular immunodepression preceding infectious complications after acute ischemic stroke in humans. Cerebrovascular diseases, 25(1-2), 50-58.
3. Klehmet, J., Harms, H., Richter, M., Prass, K., Volk, H. D., Dirnagl, U., ... & Meisel, C. (2009). Stroke-induced immunodepression and post-stroke infections: lessons from the preventive antibacterial therapy in stroke trial. Neuroscience, 158(3), 1184-1193.
4. Sarrafzadeh, A., Schlenk, F., Meisel, A., Dreier, J., Vajkoczy, P., & Meisel, C. (2011). Immunodepression after aneurysmal subarachnoid hemorrhage. Stroke, 42(1), 53-58.
5. Urmanova, G. U., Karshiev, D. A., & Islamov, Y. N. (2021). Functional status of small intestine after application of guanetidide sulfate. Новый день в медицине, (1), 29-33.

6. Walter, U., Kolbaske, S., Patejdl, R., Steinhagen, V., Abu-Mugheisib, M., Grossmann, A., ... & Benecke, R. (2013). Insular stroke is associated with acute sympathetic hyperactivation and immunodepression. European Journal of Neurology, 20(1), 153-159.
7. Westendorp, W. F., Dames, C., Nederkoorn, P. J., & Meisel, A. (2022). Immunodepression, infections, and functional outcome in ischemic stroke. Stroke, 53(5), 1438-1448.
8. Балабекова, М. К., Нурмухамбетов, А. Н., Тухватшин, Р. Р., Рыспекова, Н. Н., Токушева, А. Н., Трубачев, В. В., & Альдекеева, Ж. Е. (2017). Современный взгляд на механизмы формирования экологенной иммунодепрессии. Вестник казахского национального медицинского университета, (1), 375-380.
9. Мамедов, М. К. (2011). Метаболическая иммунодепрессия: механизмы развития и клинико-патогенетическое значение. Биомедицина (Баку), (2), 3-10.
10. Сидорович, Э. К. (2016). Влияние выраженности системного воспаления, инфекций, инсульт-индуцированной иммунодепрессии на течение и исходы инфаркта мозга. Страница главного редактора.
11. Таъсири, с. (2006). Фозалон инсектициди ва кадмий ионларининг жигар митохондриялари мембранаси ўтказувчанлигига. Доклады Академии наук Республики Узбекистан, (6), 81.
12. Урманова, Г. У., Каршиев, Д. А., & Исламов, Ю. Н. (2022). Аллергические изменения поджелудочной железы циррозах печени у детей. Воронцовские чтения®. Санкт-петербург-2022, 114.
13. Узаков, З. З. (2018). Тяжелые металлы и их влияние на растения. Символ науки, (1-2), 52-53.
14. Титов, А. Ф., Казнина, Н. М., & Таланова, В. В. (2014). Тяжелые металлы и растения.
15. Черных, Н. А., Милащенко, Н. З., & Ладонин, В. Ф. (2001). Экотоксикологические аспекты загрязнения почв тяжелыми металлами.