

17. THE BIOCHEMICAL RELATIONSHIP BETWEEN STRESS AND AUTOIMMUNITY



Author: Buciumaş Aurelia

Scientific advisor: Ambros Ala, MD, Associate Professor, Department of Biochemistry and Clinical Biochemistry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Stress is a state of concern or psychological tension which appears because of a difficult situation. Stress is a normal response of our body that helps us survive all the challenges and threats of our day-to-day life, and increases our productivity and efficiency in our work and studies. However, we can talk about the positive effect of stress only if it's an occasional, small amount of stress. Being stressed daily has a contrary effect, with harmful consequences on mental and physical health. Stress has been associated with the majority of diseases that can cause death, like cardiovascular diseases, cancer, suicide, and even accidents. A lot of scientists consider that, nowadays, 70- 85% of all pathologies are caused by continuous and long-term stress. One of the most affected areas is immunity, leading to a lot of autoimmune diseases, like rheumatoid arthritis, diabetes, systemic lupus erythematosus, autoimmune thyroiditis.

Aim of study. To research the biochemical reactions between stress and autoimmune diseases, with possible identification of pathological pathways and with the possibility of preventing, or finding new mechanisms of treatment for these diseases.

Methods and materials. The presented work was created based on a review of literature exploring bibliographic sources, using articles and manuals published in databases: Google Scholar, PubMed, NCBI, and ScienceDirect.

Conclusion. Autoimmune diseases are debilitating pathologies that affect around 8 % of people worldwide, and that require a bigger amount of the state's budgets each year. Preventing them it's easier than treating them, taking into account the fact that the majority of them have no cure. So, by reducing the level of stress, by practicing psychotherapy, or finding other activities that aim to relax, and reduce the stress such as sports, yoga, reading, and walks in the open air we obtain lower levels of cytokines, IL-6, cortisol, and pro-inflammatory markers. At the same time, we reduce the probability of developing autoimmune diseases, and people who have healthy habits, and maintain just the positive effect of the stress, with the increase of productivity.