

Summary

The Herpesviridae are a family of viruses spread widely across the natural environment. Due to their ability to establish lifelong latency and intermittent reactivation, they are a special threat to people with reduced immune potential. Currently, patients with immunodeficiency in the course of natural aging, autoimmune diseases, or immunomodulatory or immunosuppressive therapies are groups that are growing systematically. In addition, it is believed that herpesvirus infections may be one of the environmental factors modifying immunological reactions in genetically predisposed individuals and act as a trigger for the development of autoimmune diseases.

The aim of the presented publications was to evaluate different aspects of Herpesviridae infection in groups of patients with immunity disorders resulting from the aging process (people over 50 years of age) and autoimmunity (patients with multiple sclerosis).

In the first presented work, "Evaluation of Chosen Cytokine Levels among Patients with Herpes Zoster as Ability to Provide Immune Response", the potential ability for providing an immune response during VZV reactivation was analysed by assessing the level of antibodies against VZV and serum concentrations of IL-17, IL-23, IL-21, IL-4, and IL-12 in patients with herpes zoster and a control group. The results showed that there is no essential impairment of expected immune response, which additionally indicates the validity of conducting vaccination against VZV in people over 50 years of age.

In the review paper "Herpesviridae viruses and multiple sclerosis - etiopathogenetic and therapeutic links", various aspects of herpesvirus infection in multiple sclerosis were discussed, among others: pathomechanisms of infection with selected viruses, the mechanism of latency and reactivation, current studies on the seroprevalence of antibodies against selected herpes viruses in various geographical areas, and the effect of disease-modifying treatment on possible herpesvirus reactivation among patients with multiple sclerosis.

The investigation "Herpesviridae Seropositivity in Patients with Multiple Sclerosis: First Polish Study", aimed to detect the presence of antibodies against VZV, EBV, CMV, HHV-6, HSV-1, and HSV-2 in the serum of patients with relapsing-remitting MS treated with disease-modifying therapy and control individuals in north-eastern Poland. It was found that there is a higher probability of EBV and HHV-6 antibody presence in patients with MS compared to those in the control group. This study suggests that EBV and HHV-6 infection may be an important environmental trigger factor in the pathogenesis of multiple sclerosis in north-eastern Poland.

The presented publications indicate a high risk of reactivation of Herpesviridae in patients with reduced immune potential, e.g. older people and those suffering from autoimmune diseases treated with immunosuppressive therapy. It suggests the possibility of using preventive vaccinations as a way of limiting this type of infection in the elderly group. Research results also emphasize the need for active monitoring of immunocompromised patients treated with immunosuppressants in order to detect signs of reactivation of latent virus infections as soon as possible.