

Popular science abstract:

DNA repair disorders predispose to aggressive malignancies, especially lymphomas. Due to the higher risk of side effects of standard therapeutic approaches, their treatment is difficult. Finding new therapeutic option requires deep understand of their molecular biology. Unfortunately, the process of tumor formation in this group of patients remains unclear. There was observed that the development of lymphoma is preceded by Epstein-Barr virus (EBV) infection in some cases. The incorporation of viral material into the host organism may reduce genomic stability, which is lower initially in patients with DNA repair disorders.

In the current work, we want to investigate the biology of B-cell lymphomas and deeply understand the relationship between their development and viral infection. We will look where exactly the viral genetic material incorporates to human genome and how it affects the function of the modified genes and adjacent DNA fragments. It allows us to figure out how exactly it facilitates oncogenesis. We hope that the results of our research will contribute to the development of innovative treatments.