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Congress Abstract

Epidemiology of Viral Infections and Characteristics of Epstein–Barr Virus DNA Detection After Allogeneic Hematopoietic Stem Cell Transplantation

Pogorova Marina Bashirovna[1], Rogacheva Yulia Alexandrovna[1], Popova Marina Olegovna[1], Sinyaev Alexander Albertovich[1], Vlasova Yulia Yurievna[1], Bondarenko Sergey Nikolaevich[1]

[1]*First Pavlov State Medical University of St. Petersburg, St. Petersburg, Russian Federation*

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Corresponding author's email: pogorovam@yandex.ru

Introduction: Viral reactivations frequently complicate the post-transplant period; however, unified viral load thresholds and criteria for preemptive therapy of Epstein–Barr virus infection are lacking. Objective: To evaluate the frequency of reactivations and the characteristics of Epstein–Barr virus DNA detection in various biological materials in adults after first allogeneic hematopoietic stem cell transplantation.

Materials and Methods: This single-center retrospective cohort study of anonymized data included 120 patients over 18 years of age after first allogeneic hematopoietic stem cell transplantation in 2023. Six patients with viral events preceding transplantation were excluded; 114 patients were analyzed. Viral DNA was detected by polymerase chain reaction. Reactivation was recorded when more than 500 copies of viral DNA were detected. Quantitative data are presented as median and range, categorical data as number of observations and proportions.

Results: Viral reactivations were recorded in 75 patients (65.8%), with two or more viruses in 33 patients (28.9%). Cytomegalovirus was detected in 41 patients, human herpesvirus type 6 in 30, parvovirus B19 in 27, and Epstein–Barr virus in ten (8.8%). After transplantation, Epstein–Barr virus DNA was detected in blood or bone marrow in ten patients, in gastrointestinal mucosal biopsy specimens in seven, and in bronchoalveolar lavage fluid in ten. When considering all materials, the virus was detected in 23 patients (20.2%); in 13 patients, it was detected only in biopsy specimens or bronchoalveolar lavage fluid. Post-transplant lymphoproliferative disease was not recorded.

Conclusions: Viral reactivations were detected in two-thirds of patients, with multiple viruses in nearly one-third. The detection rate of Epstein–Barr virus DNA depended on the material tested: 8.8% in blood or bone marrow and 20.2% when considering all samples. Local positive results require clinical interpretation. Post-transplant lymphoproliferative disease was not recorded.

Keywords: Hematopoietic Stem Cell Transplantation; Epstein–Barr Virus Infections; Viral Diseases; Viral Load; Polymerase Chain Reaction