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Epstein-Barr virus and post-transplant complications: looking for the links

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János Sinkó

Department of Hematology and HSCT, South-Pest Central Hospital, National Institute of Hematology and Infectology, Budapest, Hungary

Styczynski et al. [1] present an EBMT database analysis on Epstein-Barr virus (EBV)-related transplant outcomes in a cohort of patients with non-malignant disorders. The present paper is the third in a row, with the two previous papers demonstrating an association between EBV serostatus and development of graft-versus-host disease (GVHD) in individuals allografted with acute leukemia and lymphoma or chronic malignancy [2, 3]. The vast majority of the world's population remains in a lifelong state of chronic persistent EBV infection. During the complex lifecycle of the virus and its prolonged co-existence with the human immune system, numerous interactions will occur. Across this process, viral antigens exert a significant impact on function of certain B-, T- and NK-cell subsets, resulting both in immune activation and immune evasion to preclude the complete clearance of the virus. In the allogeneic stem cell transplant setting, posttransplant lymphoproliferative disorder (PTLD) is the most well-studied complication associated with EBV [4]. In addition to that, it can also be postulated that the presence of EBV (donor and recipient serostatus) may have a profound impact on other immune mediated occurrences, most notably GVHD. To date, the methods to control EBV are rather limited in number. B-cell depletion with rituximab as well as adoptive transfer using EBV-specific cytotoxic T-cells are feasible methods; however, the efficacy of certain antiviral drugs is yet under investigation. It also remains to be proven whether these efforts would be sufficient to prevent or ameliorate GVHD. Undoubtedly, selecting EBV-negative donors could be an appealing and pragmatic option, rendering antiviral therapies unnecessary. Given the high seroprevalence of EBV in general population, this approach still does not seem to be applicable in real life clinical practice. In the future, well-designed prospective clinical trials are warranted to study the impact of EBV management on transplant outcomes, especially chronic GVHD.

Authors' contributions

JS – the only author.

Conflict of interest

None relevant regarding this topic.

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Ethics

The work described in this article has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans; EU Directive 2010/63/EU for animal experiments; Uniform requirements for manuscripts submitted to biomedical journals.

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Corresponding author: János Sinkó, Department of Hematology and HSCT, South-Pest Central Hospital National Institute of Hematology and Infectious Diseases, St. László Campus, Building 22, 5-7 Albert Flórián u., 1097, Budapest, Hungary, phone: +36 1455 8100/8631, e-mail: janos.sinko@gmail.com, janos.sinko@dpckorhaz.hu