

# RISK FACTORS AND CLINICAL CHARACTERISTICS OF BK POLYOMAVIRUS INFECTION AFTER HEMATOPOIETIC STEM CELL TRANSPLANTATION

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## Abstract

BK polyomavirus (BKPyV) infections are an important cause of morbidity and mortality after hematopoietic stem cell transplantation (HSCT). Hemorrhagic cystitis (HC) may occur in patients undergoing HSCT due to the BKPyV reactivation. This study aimed to assess risk factors, clinical characteristics and treatment options of BKPyV infections after HSCT. A total of 54 patients with HSCT were retrospectively evaluated and BKPyV disease was found in 24 (44%). HC was seen in 20 (83%) of patients with BKPyV disease. The median age of patients was 42 and 50% of them were male. The most common underlying disease was Acute Myeloid Leukemia (62%). Five patients had autologous and 15 patients had allogeneic HSCT. The median time to engraftment was 15 days. GVHD was seen only in 7 patients. The median time elapsed to BKPyV disease after HSCT was found as 60 days. Nineteen patients with BKPyV disease had grade 3 and one patient had grade 2 HC. While BKPyV viremia was positive in five patients, viruria was detected in all patients. Eighteen (75%) of the patients with BKPyV disease were treated with cidofovir (5mg/kg IV) and 11 with ciprofloxacin (800 mg/day). Four of the patients who received intravesical cidofovir (dose). The complete response was obtained 53% of patients with BKPyV disease. In conclusion, BKPyV disease is an emerging clinical problem after HSCT causing morbidity and mortality. It can develop especially in the early period after allogeneic stem cell transplantation. This situation has been associated with the use of immunosuppressive treatments after transplantation. Close monitoring of BK virus in high-risk patients can be an important method to improve the complication in the early period.

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