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Author Contributions

Akira Fujita: Conceptualization; data curation; visualization; writing – original draft. Kohei Kobatake: Conceptualization; writing – review and editing. Takafumi Fukushima: Investigation. Kenshiro Takemoto: Investigation. Syunsuke Miyamoto: Investigation. Hiroyuki Kitano: Validation. Kenichiro Ikeda: Methodology. Keisuke Goto: Methodology. Keisuke Hieda: Methodology. Shuhei Karakawa: Resources. Tetsutaro Hayashi: Methodology. Jun Teishima: Supervision. Nobuyuki Hinata: Supervision.

Conflict of interest

The authors declare no conflict of interest.

Approval of the research protocol by an Institutional Reviewer Board

Not applicable.

Informed consent

The patient involved provided informed consent for the publication of this study.

Registry and the Registration No. of the study/trial

Not applicable.

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Editorial Comment

Editorial Comment on Additional approach for BK virus-associated severe hemorrhagic cystitis with bilateral single-J ureteral stenting

Hematopoietic stem cell transplantation (HSCT) is the most performed cure for patients with certain cancers of the blood or bone marrow, such as leukemia, lymphoma, or multiple myeloma.[1] In these cases, the recipient's immune system is usually destroyed with radiation or chemotherapy before the transplantation. Infections are one of the most annoying complications during immune deficiency and cause of death after HSCT.[2] About one-third of infection-related deaths are due to viruses such as human adenovirus, Epstein–Barr virus, human cytomegalovirus (CMV), and BK virus.[2] BK virus infection leads to BK virus-associated hemorrhagic cystitis (BKV-HC) which is considered as one of the major

difficulties in up to 40% recipients of HSCT.[3] Hematuria with clots and need for transfusion (grade 3) and hematuria with clots and impaired renal function (grade 4) requires treatment of clot evacuation, bladder irrigation, and urological intervention. Although some surgical procedures such as bilateral percutaneous nephrostomy, selective arterial embolization, cauterization, fulguration, and total or partial cystectomy should be considered in very severe cases,[3] these treatments are highly invasive especially for children. Moreover, therapy for sever hemorrhagic cystitis is stressful for patients because of frequent clot retention and bladder irrigation. Fujita et al. cause a stir in severe HC after HSCT. They emphasized three mechanisms including (i) decreased bladder distention by urine, thereby reducing microtrauma of bladder; (ii) protection from urokinase, which prevents clot formation; (iii) bladder packed by the clot and subsequent bladder mucosal healing and bleeding cessation. This method "Bilateral single-J ureteral stenting" is not novel or innovative but certainly eye-opener.[4] It is simple, tolerated, and less invasive than percutaneous nephrostomy or cystectomy. It should be considered in advance of invasive surgical procedure. At last, they remind two attention points including that the patients should be old enough to undergo cystoscopy, and the developing risk of BK virus-related nephropathy due to the placement of ureteral stent with BK viruria patients. This report would be worthful for patients suffering from BKV-HC.

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The author declares no potential conflict of interest.

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