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**Session:** 169. Transplant ID: Viral, Mycoplasma/Ureaplasma Infections

**Friday, October 4, 2019: 12:15 PM**

**Background.** BK virus-induced nephropathy in renal transplantation is well recognized but its oncogenic potential is less appreciated.

**Methods.** We report a case of high-grade urothelial tumor in a renal transplant recipient with chronic BK viremia in the absence of BK nephropathy successfully treated with intravesical Bacillus Calmette-Guerin (BCG) instillation. Following BCG therapy, there was also spontaneous clearance of BK viremia.

**Results.** In July 2011, Mr. LY, a 57-year-old Chinese man with end-stage renal failure secondary to chronic glomerulonephritis underwent uncomplicated deceased donor renal transplantation. One year later, he developed persistent high-level BK viremia despite reduction in immunosuppression. He was also treated with a course of ciprofloxacin from January to October 2013, and intravenous immunoglobulin (IVIG) in February 2013, but high-level BK viremia persisted. In spite of this, his graft function was preserved. He was subsequently placed on BK surveillance alone. Chronic BK viremia persisted for the next 3 years with stable graft function. See Figure 1. In February 2018, an incidental urinary bladder nodule was picked up on computed tomography (CT) scan performed for evaluation of urosepsis. Follow-up flexible cystoscopy in May 2018 showed a 1.5 cm papillary tumor over the left superior bladder wall. Transurethral resection of bladder tumor (TURBT) was performed and histopathological examination revealed high-grade papillary urothelial carcinoma. In addition, the biopsy specimen was stained positive for SV40, suggesting the possible association between chronic BK virus replication in the bladder and oncogenesis. Retreatment TURBT in July 2018 revealed a persistent erythematous patch over the posterior bladder wall. Given the cystoscopic findings, Mr. LY received a weekly instillation of intravesical BCG for 6 weeks. He tolerated the intravesical BCG treatment with no local or systemic complications. Interestingly, his serum BK viral loads dropped below lower limits of detection thereafter and continued to remain so for the next 4 months.

**Conclusion.** We postulate that the intravesical BCG therapy triggered an immune response that targeted not only the tumor but also the BK virus infection, resulting in successful clearance of chronic BK viremia.

**Disclosures. All authors:** No reported disclosures.

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1765. BK Polymavirus Reactivation Outcomes After Renal Transplantation in Association With Adherence to a Standardized BK Polymavirus Screening Protocol: A Multi-Center Collaboration

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**Background.** BK virus-induced nephropathy in renal transplantation can lead to allograft nephropathy (BKAN) or even allograft loss. Many transplant centers implement screening protocols in an attempt to detect BKPyV reactivation before progression to BKAN, although the frequency and duration of screening vary widely among centers.

**Methods.** The New England BK Consortium (NEBKCON), a collaboration of 12 transplant centers in the northeastern United States, has adopted a standard BKPyV screening protocol (screening monthly for the first 6 months followed by screening every 3 months until 2 years after transplantation). Participating members implemented this screening protocol at their centers, and later measured adherence to the protocol as part of a NEBKCON quality improvement project. This study retrospectively analyzes BKPyV-specific outcomes in association with adherence to this protocol.

**Results.** Six centers reported data on 472 subjects who received a renal transplant between January 2016 and December 2017. Adherence to the screening protocol during the first 12 months (71.76.7%, mean 56.1%) and 24 months (26.52.5%, mean 36.8%) after transplant varied between centers. Rates of BKPyV viremia (3.6–28.2%, mean 20.6%) as well as BKAN (0–4.5%, mean 3.2%) also varied among centers. Adherence to the screening protocol was associated with a decrease in the magnitude of the initial viral load detected (3.29 vs. 3.74 log10 copies/mL, P = 0.065), but was not associated with peak viral load (3.95 vs. 4.14 log10 copies/mL, P = 0.47), viremia duration (179 vs. 196 days, P = 0.74), or incidence of BKAN among viremic subjects (15.3% vs. 16.0%, P = 0.91).

**Conclusion.** Even with a uniform screening protocol for BKPyV in place, adherence to this protocol varied widely among centers. More research is needed to determine patient-level and center-level barriers to adherence, as well as to determine optimal screening practices to further reduce the incidence of BKAN.

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1766. Osimertinib-Associated Progressive Multifocal Leucoencephalopathy

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**Background.** Progressive multifocal leucoencephalopathy (PML) is a rare demyelinating disease of white matter in the central nervous system (CNS) caused by reactivation of John Cunningham (JC) virus. Drug-induced PML is increasingly reported with the widely used biological immunosuppressant drugs and molecular targeted antineoplastic agents. Monoclonal antibodies were the pioneer drugs to be associated with PML including the prototypical natalizumab.

**Methods.** Epidermal growth factor receptor (EGFR) tyrosine kinase inhibitors (TKI) have been rarely described in this context with few case reports ofibrutinib-associated PML. Osimertinib, a third-generation EGFR TKI, was recently FDA-approved for the first-line treatment of metastatic non-small-cell lung cancer (NSCLC), and to the best of our knowledge has never been associated with PML. We describe a case report of a rapidly progressive PML likely associated with osimertinib therapy.

**Results.** A 65-year-old female with history of NSCLC, on osimertinib, was admitted with progressively worsening left hemiparesis, facial palsy, unsteady gait, recurrent falls, and episodic confusion over a period of month. Brain magnetic resonance imaging revealed foci of non-enhancing increased T2 and fluid-attenuated inversion recovery (FLAIR) signal intensity in the periventricular and bilateral cerebral subcortical white matter. MRI cervical spine was unremarkable for acute enhancing lesions. Cerebrospinal fluid (CSF) was unremarkable for infectious etiology, oligoclonal bands, and cytology. The patient was readmitted 2 weeks later with worsening neurological deficits and new lesions in the bilateral middle cerebellar peduncles, pons, and right posterior cerebral white matter. Positive CSF JC virus PCR lead to the final diagnosis of “probable” PML. Biopsy was deferred for high clinical suspicion of PML and procedural risks outweighing benefits. Osimertinib was likely contributing to PML in the absence of other immunosuppression.

**Conclusion.** Inhibition of tyrosine kinase-dependent pathways can potentially aid in the replication of JC virus per previously reported ibrutinib-associated PML. Clinicians should be aware of PML risk in patients on osimertinib and TKI therapy, especially those with positive serum JC virus serology.
1767. Incidence of Respiratory Syncytial Virus Infection among Adults Undergoing Hematopoietic Stem Cell Transplantation: A Prospective Study from India
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Session: 169. Transplant ID: Viral, Mycoplasma/Ureaplasma Infections
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Background. Respiratory Syncytial Virus (RSV) is an important cause of morbidity and mortality in hematopoietic stem cell transplant (HSCT) recipients; progression from Upper Respiratory Tract Infection (URI) to Lower Respiratory Tract Infection (LRTI) may occur in 30%–40% of transplant recipients with associated high fatality. Data on disease burden due to RSV among adult HSCT recipients is limited with no earlier reports from India.

Methods. We prospectively studied 50 HSCT recipients who underwent hematopoietic stem cell transplantation at our institute from January 2017 onwards. Patients were followed up for a period of 18 months post-transplant, initially during stay in transplant unit and subsequently on out-patient basis and telephonically for any episode of acute respiratory tract infection. Information on symptoms and signs at presentation as well as basic hematological and radiological investigations were collected. Nasal and throat swabs from symptomatic patients were taken in viral transport medium and tested for RSV by real-time RT–PCR. As per institute policy patients had received prophylaxis with acyclovir and itraconazole till day +30 post-transplant.

Results. A total of 68 episodes of acute respiratory tract infection were tested for RSV during the follow-up period (mean ± standard deviation = 12 ± 5 months; 11 patients expired during follow-up period). Of these 21 were URI episodes, 46 were acute bronchitis episodes and 1 was a pneumonia episode. Two episodes tested positive for RSV in two autologous HSCT recipients, both belonging to RSV-B subtype, one from a URI episode on day 163 of HSCT and the other from a pneumonia episode on day 8 after HSCT. Both recovered without specific targeted treatment against RSV. The incidence of RSV infection in post-HSCT adult patients calculated from this study is 4% per year.

Conclusion. There is significant incidence of RSV infection among post-HSCT adults in India. Nevertheless, institution of targeted treatment options depends on weighing the cost and risk against benefit of using them. RSV-B subtype as seen in this study also is less virulent and less likely to lead to LRTI compared with RSV-A. Clinical predictors of poor outcomes can also help to decide upon prophylaxis. Larger studies focusing on preventing progression to LRTI need to be done.

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1768. Dengue Virus Infection in Solid-Organ Transplant Recipients: Case Series and Literature Review
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Background. Dengue fever is the most prevalent arbovirus among humans, its incidence has increased since the re-emergence, and Colombia is a hyperendemic country for this infection. The number of solid-organ transplant (SOT) recipients, at risk of acquiring dengue virus infection, is constantly increasing, and there are few data regarding the clinical course and outcomes of dengue infection among this population. The aim of this study was to describe dengue virus infection in SOT recipients in Cali, Colombia.

Methods. We present a case series of SOT recipients with dengue virus infection, diagnosed by World Health Organization criteria and a positive NS1 and/or IgM dengue antibodies, which were attended at the FVL from 2001 to 2018. Furthermore, we performed a literature review regarding dengue infection in SOT recipients.

Results. A total of 20 patients were included: 17 kidney and 3 liver recipients. The median age was 50.5 years (IQR = 31–63.5), 65% were female. The median time