Conclusions. The data showed that resistant CMV infections are associated with a higher rate of CMV disease. However, both resistant and refractory CMV infections had increased all-cause mortality and similar CMV-attributable mortality. There was no difference in outcomes between allo-HCT recipients who had resistant or refractory CMV infections. New treatment strategies for resistant or refractory CMV infections are needed.

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1562. Impact of Skin Biopsy on Diagnosing Infections and Changing Treatment in Cancer Patients with New Skin Rash
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Background. Skin lesions in immunosuppressed cancer patients have a broad differential of infectious and non-infectious causes. Rash may be an early indication of serious systemic infections that are otherwise difficult to diagnose; hence, skin biopsy with culture and histopathology plays a vital role in establishing a diagnosis. Our study aims to determine the yield of skin biopsy in identifying infections and its impact on diagnosis and therapy.

Methods. We performed a retrospective review of all cancer patients admitted to University of Maryland from August 2010 to October 2017 who had a skin biopsy for new rash. We classified the skin lesion as infectious if the biopsy pathology or culture showed a pathogenic organism.

Results. Of 269 patients biopsied for new skin lesions, 43 (16%) were caused by infectious agents. 84% were non-infectious. Among non-infectious causes, 36% were due to graft vs. host disease, 9% cancer, 9% drug reaction, 4% Sweet syndrome, and 29% were nondiagnostic. The median WBC count trended toward significantly lower in the infectious group (1,100 × 10^3/L) vs. the non-infectious group (2,700 × 10^3/L; P = 0.08). Of the 33 infectious lesions, 13 (40%) were fungal, 13 (39%) bacterial, 13 (40%) viral and one (2%) mycobacterial. Sixty-seven percent patients had absolute neutrophil counts <1,000 × 10^3/L, 40% were female, and 28% had a stem-cell transplant. The majority of infections (58%) were identified by skin biopsy alone. Change in diagnosis after biopsy was significantly more likely in patients with non-infectious lesions than non-infectious (47% vs. 28%, respectively; P = 0.02). Patients with a biopsy-confirmed infectious cause were five times (95% CI 2.70–10.22) more likely to have a change in therapy post biopsy compared with patients with a non-infectious cause. The sensitivity and specificity of provider diagnosis prior to biopsy was 86% and 81%, respectively. The positive predictive value of pre-biopsy provider diagnosis was low at 46%.

Conclusion. Skin biopsy of new rash in immunocompromised cancer patients frequently reveals systemic infections (especially fungal) and often leads to a change in diagnosis and therapeutic management.

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1563. Relationship of Cumulative Viral Burden of Adenovirus with Mortality in Allogeneic Hematopoietic Cell Transplant Recipients with Early Adenovirus Viremia
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Background. High peak adenovirus (ADV) viral loads (VL) have correlated with higher mortality in allogeneic hematopoietic cell transplant (HCT) recipients. ADV viral dynamics may inform trial design of new treatment strategies. We examined the relationship between cumulative viral burden expressed as average area under the curve (AAUC) and mortality.

Methods. We identified 62 HCT at MSK monitored by plasma ADV qPCR (Viracor-Eurofins) who had >1 value of ADV VL ≥100 copies/mL <100 days post-HCT. AAUC was calculated as the sum of the area of trapezoids of ADV VL (log copies/mL) divided by the duration (weeks) of viremia. AAUC was categorized into quartiles (Q). Survival was obtained by the Kaplan–Meier method at 16 weeks from onset of ADV. Cox proportional hazard models were used to evaluate the association between AAUC and mortality. Age, underlying disease, HLA match, donor cell source, ex vivo T-cell depletion (TCD) and acute graft vs. host disease (aGVHD) were included in the model.

Results. Of 62 patients, 24 (39%) were children, 40 (65%) had acute leukemia or myelodysplastic syndrome, 50 (81%) received myeloablative conditioning, 41 (66%) had myeloid/myelodysplastic syndrome, 50 (81%) received myeloablative conditioning, 41 (66%)