A Tale of Two Viruses: Unusual Manifestations of Viral Infection in Renal Transplants

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Abstract

Viruses can affect the kidney in many ways, including direct infection, hypersensitivity to the pathogen (e.g., through immune complex formation and deposition in the glomerulus)(1), viral transformation leading to neoplasia (2), and injurious side effects of antiviral agents. Virus-associated renal injury is particularly prevalent in the setting of transplantation, where long-term immunosuppression facilitates viral infection, both de novo and by reactivation of latent infection. This presentation will cover two unusual manifestations of viral infection in renal transplants. In the first, systemic infections with parvovirus B19, classically associated with collapsing glomerulopathy (3), elicited an unusual immune complex glomerulonephritis in which the deposits contained spherical particles consistent with parvovirus virions. In the second, polyomavirus-associated nephropathy (PVAN), usually caused by BK polyomavirus (BKV), was linked to infection with JC polyomavirus (JCV), typically the agent of progressive multifocal leukoencephalopathy (PML). Though the polyomavirus infections were diagnosed by immunohistochemistry and molecular assays for circulating virus, examination of urine by electron microscopy of negative stains provides a rapid and effective method of detecting both BKV and JCV (4).

References

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