

Cytomegalovirus-Associated disease in the modern era of kidney transplantation

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Despite many recent advances in solid organ transplantation, cytomegalovirus (CMV) infection and disease continue to cause morbidity and mortality after kidney transplantation. CMV causes cellular damage when viral replication occurs in target organs including lung, gastrointestinal tract, and liver and can also cause systemic disease. In addition to direct organ damage, CMV is also associated with a spectrum of less well-categorized indirect effects including increased susceptibility to rejection as well as to infection with other pathogens.

Risk factors for CMV disease include use of antithymocyte globulin for induction and episodes of rejection. For patients who are naïve to the virus, transplant from a CMV-experienced donor (D+/R-) leads to a higher rate of CMV viremia and disease compared with other serotype combinations. Methods of immunologic analysis including interferon-gamma enzyme-linked immunospot assay and tetramer monitoring have been used to define the time course of the anti-CMV immune response that is crucial for viral control.

Current prevention strategies depend on either preemptive or prophylactic strategies; the most efficacious method and the period of time that it should be employed are still matters of considerable debate. Treatment is less controversial and relies primarily on intravenous ganciclovir and oral valganciclovir. Drug resistance is relatively rare but may require change to second line therapies. New drugs with less toxic side effect profiles are currently in development and may significantly change the field both in terms of prophylaxis and treatment.

Biography

Dr. Joanna M. Schaenman is an Assistant Clinical Professor of Medicine in the Division of Infectious Diseases at the David Geffen School of Medicine at UCLA. Her specialty is Transplant Infectious Diseases, providing outpatient and inpatient consultation to solid organ transplant recipients at Ronald Reagan UCLA Medical Center. She has been an invited speaker at the American Society for Microbiology and Infectious Diseases Society of America meetings, a reviewer for the journal Transplant Infectious Diseases, and a member of the American Society of Transplantation Infectious Disease Community of Practice. Her research interests center on the antiviral immune response in immunocompromised patients with a focus on CMV and BK viruses.

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