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Herpes Zoster Prevention in Patients With Kidney Disease: Current Evidence, Safety, and Clinical Application of the Recombinant Zoster Vaccine (RZV)

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Herpes zoster remains a major preventable cause of morbidity in patients with kidney disease, a population in whom uremia, immune senescence, dialysis, and immunosuppression converge to accelerate varicella-zoster virus reactivation. This lecture reviews the clinical burden of shingles across chronic kidney disease, end-stage kidney disease, glomerulonephritis, and kidney transplantation, with particular emphasis on post-herpetic neuralgia, hospitalization, ocular complications, cardiovascular events, and the practical difficulties of managing neuropathic pain in patients with impaired renal clearance. It first outlines the pathophysiology of VZV reactivation, highlighting the loss of cell-mediated immunity, impaired VZV-specific CD4⁺ T-cell function, and the age-mismatched immune phenotype observed in dialysis patients. The lecture then contrasts the historical live-attenuated zoster vaccine with the recombinant adjuvanted zoster vaccine, focusing on efficacy decay, contraindications, and safety limitations of live vaccination in immunocompromised renal populations. Building on pivotal efficacy trials, post-hoc analyses, observational dialysis studies, transplant data, and contemporary guideline recommendations, the session summarizes why recombinant zoster vaccine has become the preferred platform for renal patients. RZV provides high and durable protection in older adults, clinically meaningful effectiveness in CKD and ESRD, and an acceptable safety profile in transplant recipients and patients receiving steroids, mycophenolate mofetil, or biologic therapy. Practical implementation topics include two-dose schedule, vaccination before transplantation, use after prior shingles, co-administration with influenza or pneumococcal vaccines, and integration into routine CKD care pathways. Finally, herpes zoster prevention is framed within a broader adult immunization strategy for kidney disease, including influenza, pneumococcal, hepatitis B, COVID-19, and RSV vaccines.

Keywords: herpes zoster, vaccine, efficacy, safety, guideline