

Association study between herpes zoster and chronic kidney disease: a cohort study in Taiwan

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Abstract

Immune system dysregulation is observed in end stage renal disease (ESRD). Although decreased cellular immunity increases susceptibility to herpes zoster (HZ), the risk of HZ in chronic kidney disease (CKD) patients is unclear. We conducted a cohort study using data from the Taiwan Longitudinal Health Insurance Database. The study cohort included patients aged 18 years and older diagnosed with CKD between 2004 and 2005 ($N = 9,457$), with a control cohort (1:4) of 47,285 age- and gender-matched controls. Each patient was followed since their hospitalization until the end of 2006. Cox proportional hazard regressions were performed to compare the hazard rates of HZ in the CKD cohort and the age- and sex-matched comparison cohort. After adjusting for potential confounding factors, patients with CKD were more likely to have incidents of HZ (adjusted HR 1.78, 95% confidence interval 1.55-2.03). When compared with the comparison cohort, the adjusted HR of HZ was 1.72 (95% CI 1.47-2.01) for patients with CKD not taking immunosuppressive medications and 1.92 (95% CI 1.54-2.39) in those taking immunosuppressive agents. Our analysis suggests that patients with CKD are at increased risk of HZ, especially those aged ≤ 40 years (adjusted HR 3.01, 95% CI 1.84-4.94). This population-based cohort study demonstrated patients with CKD were at increased risk of HZ compared to the general population, especially those aged 40 years or younger.