

Risk of Respiratory Infection in Children under Dialysis Treatments

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Objective: Respiratory infection in oriental children with end stage renal disease under dialysis treatments is rarely reported. This study investigated factors associated with the infection and compared the risk difference between children under peritoneal dialysis (PD) and under hemodialysis (HD).

Methods: From the claims data of the universal health insurance program in Taiwan, the incidence of respiratory infection was measured for children under dialysis treatments. A comparison study was further conducted for analyzing factors in association with the infection.

Results: The incidence of respiratory infection was 1.79-fold higher in children under PD treatment than those under HD (19.0 vs. 10.6 per 100 person- years), with a significant hazard ratio (HR) of 1.66 (95% confidence interval (CI) 1.41-2.27) after controlling for sex, age and comorbidity. The risk of infection was slightly higher for boys than for girls, but not significant. Among selected comorbid disorders, children with respiratory infection were significantly associated with the baseline diabetes (HR 3.64, 95% CI 1.69-7.81), Coronary artery disease (CAD) (HR 2.08, 95% CI 1.31-3.30) and pneumonia (HR 1.50, 95% CI 1.02-2.20). Children receiving flu vaccination were at higher risk of hospitalization and cost for hospitalization.

Conclusion: Children with ESRD under PD treatment were at a higher risk of infection than those under HD treatment. Diabetes, CAD and pneumonia are significant predictors of the infection.