



Acute Kidney Injury in Children Hospitalized with SARS-CoV-2 Infection

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To the Editor: Acute kidney injury (AKI) is commonly observed in critically ill children and is associated with poor outcomes [1]. Although children have less severe COVID-19 [2], those requiring hospitalization are at high risk for developing AKI. Knowledge of AKI incidence in the children hospitalized for COVID-19 will help resource allocation. We performed a systematic review to provide pooled incidence of AKI in hospitalized children with COVID-19. Cohort and cross-sectional studies reporting AKI incidence in the children hospitalized with SARS-CoV-2 infection or multisystem inflammatory syndrome in children (MIS-C) were eligible for this review. We searched four electronic databases (PubMed, EMBASE, Web of Sciences, and CENTRAL) using individualized search strategies for studies published between December 2019 and September 2021. Two reviewers independently assessed the study eligibility and extracted the data. A random-effect meta-analysis was performed to generate pooled estimates.

We included 29 eligible studies enrolling 4826 children with SARS-CoV-2 infection including MIS-C. The pooled incidence of AKI in the children with MIS-C (22 studies, 3851 participants) was 29% (95% CI: 23 to 34), and in those with acute COVID-19 (10 studies, 1010 participants) was 21% (95% CI: 11 to 31). Severe AKI (KDIGO stage ≥ 2) was observed in 19% (11 to 30) in MIS-C and 11% (4 to 20) in acute COVID-19. Children with SARS-CoV-2 or MIS-C who develop AKI have higher odds of mortality (OR: 4.1; 1.8 to 9.7) than those without AKI.

We observed that AKI incidence in children with acute COVID-19 is almost similar to critically sick children

admitted for other illnesses [1]. A similar incidence of AKI is also reported in adults with COVID-19 [3, 4]. Considering a significant proportion of children with SARS-CoV-2 infection developing AKI, clinicians should be watchful and take pre-emptive measures for prevention.

Declarations

Conflict of Interest None.

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