Letter to Editor

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COVID-19 and Renal Complications in Neonates and Pediatrics

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Dear editor,

Several studies stated that course of COVID-19 in children is considerably better than adults.[1–3] COVID-19 mortality rates in infected children is less than 1%.[4,5] Some studies indicated the importance of renal function surveillance among infected children with COVID-19.[4] However, there was no sufficient data on renal complications in infected children. The available data showed that ventilation in the infected children might be less aggressive and had less systemic involvement and renal dysfunction than adult patients.[5] Normal renal function defined by serum creatinine (SCr) greater than 110 μmol/L or serum urea greater than 7 mmol/L. Shah et al., reported that the infection might be associated with new-onset nephrotic syndrome in the children.[6] A study from northern China evaluated the epidemiological history, clinical manifestations, treatment and the short-term prognosis of 31 infected children (6 months -17 years) from six provinces. The study showed that the clinical manifestations and laboratory examination results are nonspecific in the infected children. Moreover, renal function and blood glucose were normal in the infected children.[7] Other study among nine Chinese infected infants (age ranges: 1-11 months) showed that those infants did not require intensive care and had no serious complications.[8] In a study, Qui et al. described the clinical and epidemiological characteristics of 36 Chinese hospitalized children (age 0–16 years). Their results showed that none of the children had renal dysfunction.[9] Stewart et al., described data of 52 infected children (age 0–16 years) who referred to Great Ormond Street

Hospital for Children NHS Foundation Trust (London, UK). Their data showed that 24 (46%) of those children had a SCr greater than the upper limit of reference interval (ULRI), and 15 (29%) met the British Association of Pediatric Nephrology (BAPN) diagnostic criteria for acute kidney injury (AKI). Moreover, most cases of AKI occurred in those children who admitted to the pediatrics ICU (PICU) and those children with pediatrics inflammatory multisystem syndrome temporarily associated with the infection.[4] Deep et al., have reported that the incidence of AKI in infected children might be between 2% and 3%.[5] But, their reports was less than the epidemiology of 26% renal dysfunction in children admitted to PICU.[10] Moreover, González-Dambrauskas et al., in a multicenter epidemiological study of critically ill children indicated that AKI occurred in 18% of patients. They proposed that pediatric patients with a comorbidity such as congenital heart diseases and congenital renal diseases and renal transplant patients are at higher risk of renal complications.[11]

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