

THE LANCET

Child & Adolescent Health

Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed.
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Supplement to: Stewart DJ, Hartley JC, Johnson M, Marks SD, du Pré P, Stojanovic J.
Renal dysfunction in hospitalised children with COVID-19. *Lancet Child Adolesc Health*
2020; published online June 15. [http://dx.doi.org/10.1016/S2352-4642\(20\)30178-4](http://dx.doi.org/10.1016/S2352-4642(20)30178-4).

Table – Demographics, clinical features, disease acuity, and markers of renal involvement in children and adolescents with COVID-19

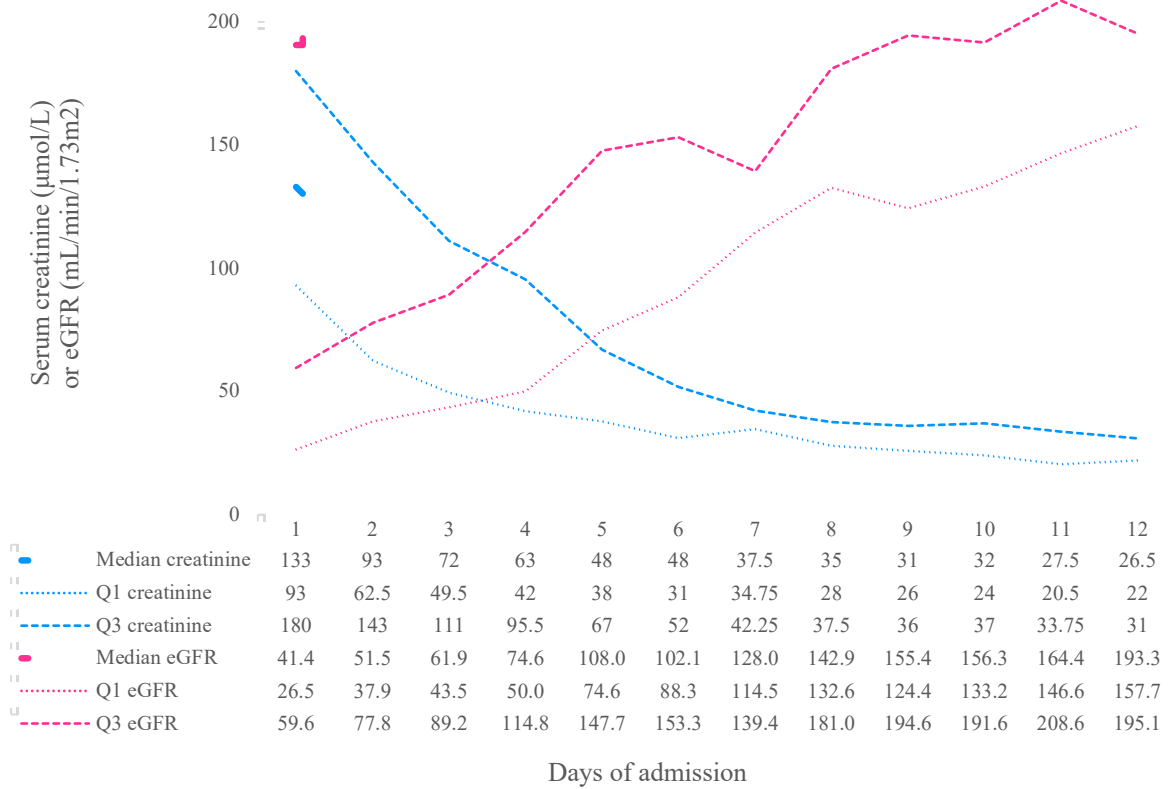
	All patients (n=52)	Patients with AKI (n=15)
Demographics		
Median age, years	9.4 (5.6-12.9)	9 (7.7-10.5)
Sex		
Male	35 (67%)	10 (67%)
Underlying comorbidities	29 (56%)	4 (27%)*
On immunosuppressive medication(s)	5 (10%)	0
COVID-19		
Clinical features at presentation		
Fever	46 (88%)	13 (87%)
Abdominal pain	24 (46%)	7 (47%)
Diarrhoea	22 (42%)	11 (73%)
Cough	15 (29%)	1 (7%)
Increased work of breathing	23 (44%)	10 (67%)
Vomiting	27 (52%)	10 (67%)
Rhinitis	5 (10%)	0
Disease acuity		
PICU admission	37 (71%)	14 (93%)
Median duration of PICU stay, days**	3 (2-3)	3.5 (2-5)
Mechanical ventilation	24 (46%)	10 (67%)
Inotropic support	26 (50%)	13 (87%)
ECMO	1 (2%)	0
Multisystem inflammatory syndrome / PIMS-TS	24 (46%)	11 (73%)
Markers of renal involvement		
Creatinine >1 but <1.5 x ULRI	10 (19%) [range 37-114 µmol/L]	..
AKI		
AKI 1 (creatinine >1.5-2 x ULRI)	7 (13%) [range 63-148 µmol/L]	7 (47%)
AKI 2 (creatinine >2-3 x ULRI)	2 (4%) [range 111-133 µmol/L]	2 (13%)
AKI 3 (creatinine >3 x ULRI)	6 (12%) [range 179-275 µmol/L]	6 (40%)
Uraemia	26 (50%) [range 5.3-39.2 mmol/L]	15 (100%) [range 5.3-39.2 mmol/L]
Proteinuria***	5 (10%)	2 (13%)
Haematuria****	12 (23%)	5 (33%)
Renal ultrasonography performed	28 (54%)	11 (73%)
Acute renal ultrasound abnormalities	11 (21%)	5 (33%)
Requirement for CRRT	0	0

Data are n (%) or median (IQR). AKI = acute kidney injury. CRRT = continuous renal replacement therapy. ECMO = extracorporeal membrane oxygenation. PICU = paediatric intensive care unit. PIMS-TS = paediatric inflammatory multisystem syndrome temporarily associated with SARS-CoV-2. ULRI = upper limit of reference interval.

*Underlying comorbidities were methylmalonic acidaemia (MMA), obesity, prematurity, and type 1 diabetes mellitus. **Maximum duration of PICU stay was 12 days. ***22/52 (42%) were screened for proteinuria. Proteinuria was detected in 5/22 (23%) screened for it. Proteinuria was detected in 2/8 (25%) of all AKI patients screened for it. ****40/52 (77%) were screened for haematuria. Haematuria was detected in 12/40 (30%) screened for it. Haematuria was detected in 5/14 (36%) of all AKI patients screened for it.

Figure – Median serum creatinine and median estimated GFR values with interquartile range for the AKI cohort (n=15) followed during 12 days of admission (where data was available during that time period)

□



Estimated GFR values were calculated using revised Schwartz equation, where $k = 36.5$. Where height data was not available, height was substituted by the 50th percentile value for age. Twelve days of admission was chosen as this was the longest duration of stay in PICU by any one patient. eGFR = estimated glomerular filtration rate. Q1 = first quartile. Q3 = third quartile.