Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

frozen plasma with clinico-biological improvement. ADAMTS-13 activity level was 1% without autoantibodies (<12U/ml). Two years after the inaugural episode, he maintains stable renal function (creatinine 200 µmol/l) using regularly fresh frozen plasma perfusion.

Conclusions: This is a constitutional and severe ADAMTS-13 deficiency, with atypical renal involvement and absence of hypertension at presentation. The neurological manifestations, appeared nine months after the onset of the disease, rectified the diagnosis. Initial improvement with corticosteroid therapy and plasmapheresis suggest that autoantibodies may also be present. Regular supplementation of deficient protein maintained remission.

No conflict of interest

POS-027

CRITICAL ILLNESS AND SYSTEMIC INFLAMMATION ARE KEY RISK FACTORS OF SEVERE AKI IN PATIENTS WITH COVID-19

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Introduction: Acute kidney injury (AKI) has emerged as an important complication in COVID-19 patients. However, the relationship of AKI to the overall disease course remains incompletely understood. Here, we provide insights into COVID-19-associated AKI by conducting a detailed longitudinal analysis of clinical parameters and their association with AKI development.

Methods: In this observational cohort study of COVID-19 patients treated at three hospitals of a tertiary care referral center, baseline characteristics and longitudinally evolving clinical and laboratory parameters were collected. AKI was defined and staged according to the Kidney Disease: Improving Global Outcomes (KDIGO) classification. Descriptive statistics and explanatory multivariable Cox regression modeling with clinical parameters as time-dependent covariates were used to identify risk factors of severe AKI (KDIGO Stage 3).

Results: Out of 223 consecutive COVID-19 patients, 70 (31%) developed severe AKI, of which 95.7% required kidney replacement therapy. Patients with severe AKI were older, predominantly male, had more comorbidities and displayed excess mortality. Severe AKI occurred exclusively in intensive care unit patients and 97.3% of patients developing severe AKI had respiratory failure. Mechanical ventilation, vasopressor therapy, and inflammatory markers (serum procalcitonin levels and leucocyte count) were independent time-varying risk factors of severe AKI. Increasing inflammatory markers displayed a close temporal association with development of severe AKI.

Conclusions: Severe AKI in COVID-19 patients is temporally associated with critical illness and spiking systemic inflammation and does not occur uncoupled from overall disease severity.

No conflict of interest

POS-028

OUTCOMES OF INTERMITTENT PERITONEAL DIALYSIS IN PAEDIATRIC POPULATION

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Introduction: Acute kidney injury is a common condition among paediatric population which may be due to varied etiology and treatment includes proper balance of fluids and electrolytes , if indicated renal replacement therapy. In resource limited settings and in young children where equipments and trained dialysis personnel are not available, Intermittent peritoneal dialysis(IPD) serves as a promising modality to improve outcomes and prevent mortality in children suffering from AKI.

Aims & Objectives:

1. To study the role of IPD among paediatric population.
2. To assess the short term outcomes of paediatric AKI.

Methods: A total of 78 cases of children up to the age of 15 years who presented to the department of Nephrology Osmania general hospital with AKI irrespective of the cause requiring peritoneal dialysis from September 2018 to March 2019 were included in the study. Peritoneal dialysis was continued for 1to 5 days based on the clinical condition. All children were evaluated for the short term outcomes and complications of peritoneal dialysis.

Results: Out of 78 cases, 7 (9%) were neonates, 15 (19%) were infants, 56 (72%) were children from 1 to 15 years of age. 41 (52.5%) were males and 37 (47.4%) were females. 18(23%) children had underlying structural abnormalities. Biopsy was done in 40 cases, IRGN was most common (20%) followed by FSGS (20%), IgA nephropathy (15%), CIN (15%), Crescentric GN (10%), TMA (10%), ATN (10%).

Duration of PD was 1 to 5 days with average duration of 2.5 days.

On analysing the outcomes, 23 children (29.4%) had complete recovery of renal function among them majority had biopsy findings consistent with ATN or IRGN. 19 children (24.3%) expired during the course of illness. 36 (46.1%) children had progression of the illness with 11 children (30.55%) requiring CAPD for maintenance therapy, most of who had underlying FSGS/CIN. Peritonitis was observed in 14 (17.9%) children with culture being positive in 5 and negative in 9 patients. Dyselectrolytemia was observed in 34 patients (43.58%), 24 (70%) having hypokalemia.

Conclusions: Intermittent Peritoneal dialysis serves as one of the effective treatment option for children presenting with AKI in resource limited settings.

No conflict of interest

POS-029

PATTERNS OF AKI IN PATIENTS HOSPITALISED WITH COVID-19 DURING THE FIRST WAVE OF THE COVID-19 PANDEMIC IN A LARGE UK TERTIARY CENTRE

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Introduction: Acute kidney injury (AKI) in patients hospitalised with COVID-19 is common, and is associated with worse prognosis, especially among critically unwell patients. The aim of this study was to investigate the epidemiology, risk factors and impact of AKI on patients hospitalised with COVID-19 in a large UK tertiary centre.

Methods: We retrospectively collected and analysed data from electronic health records of all adult patients admitted with a clinical and laboratory-confirmed diagnosis of COVID-19 across both hospital sites of large UK tertiary centre from 1st March to 13th May 2020, during the first wave of the COVID-19 pandemic in the UK. Those with pre-existing end-stage kidney disease or possible hospital-acquired COVID-19 were excluded. Incidents of AKI were identified using KDIGO criteria and weekly incidence rates were calculated. We developed a logistic regression model to identify predictors of AKI, and a Cox regression model to investigate the impact of AKI on mortality.

Results: 1248 inpatients were included, with a mean age of 69 years and male preponderance of 58.8%. Chronic kidney disease (CKD) defined as eGFR < 60 ml/min/1.73m^2 was present prior to admission in 16.6%. AKI occurred in 39% (n=487) patients, including stage 1 51% (n= 248), stage 2 13% (n=64) and stage 3 36% (n=175). 109 patients (8.7% of total, 22% of all AKI) required renal-replacement therapy (RRT). Of those who developed AKI and were discharged alive, 219 (84.6%) had recovered renal function to baseline creatinine by time of discharge and none required on-going RRT. The incidence rate of AKI increased on a weekly basis initially, peaking at 2.19 per 100 person-days at weeks 5 to 6, before reducing at a similar pace to 1.41 per 100 person-days by the end the study period (week 9 to 10).

	Total (n=1248)	No AKI (n=761)	All AKI (n=487)	P value
Age (years), mean (SD)	68.9 (17.0)	67.4 (18.2)	71.2 (14.7)	< 0.001
Male sex, n (%)	734 (58.8%)	423 (55.6%)	311 (63.9%)	0.004
Ethnicity, n (%)				0.003
White	613 (49.1%)	392 (51.5%)	221 (45.4%)	
Black	342 (27.4%)	183 (24.0%)	159 (32.6%)	
Asian	102 (8.2%)	69 (9.1%)	33 (6.8%)	
Mixed, other or unknown	191 (15.3%)	117 (15.3%)	74 (15.1%)	
Hypertension, n (%)	681 (54.6%)	346 (45.5%)	335 (68.8%)	< 0.001
Diabetes, n (%)	406 (32.7%)	207 (27.4%)	199 (40.9%)	< 0.001
CKD with eGFR<60 ml/min/1.73m^2, n (%)	207 (16.6%)	77 (10.1%)	130 (26.7%)	< 0.001
RRT required, n (%)	109 (8.7%)		109 (22.4%)	< 0.001
ICU admission, n (%)	192 (15.4%)	43 (5.7%)	149 (30.6%)	< 0.001
Death in hospital, n (%)	333 (26.7%)	128 (16.8%)	205 (42.1%)	< 0.001

On multivariable logistic regression, male sex (OR 1.55, P<0.001), black ethnicity (OR 1.79, P<0.0005), baseline eGFR<60 ml/min/1.73m^2 (OR 3.06, P<0.0001), hypertension (OR 1.73, P<0.0005) and in-patient diuretic usage (OR 1.69, P<0.005) were significantly associated with AKI. Of those with AKI, 42.1% (n=205) died during admission, compared to 16.8% (n=128) without AKI. AKI was a strong predictor of 30 day mortality (see Figure), even at stage 1 with HR 1.65 (P<0.001), which increased further by stage to HR 3.1 (P<0.0001) for AKI stage 2 and HR 3.89 (P<0.0001) for stage 3, adjusting for other variables by multivariable Cox regression.

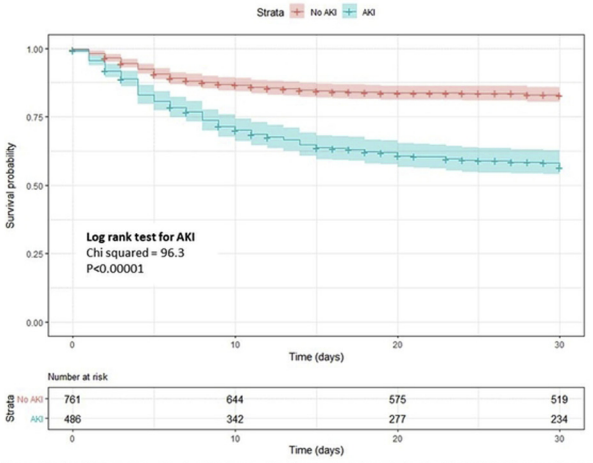

Figure: Kaplan-Meier curve showing 30 day survival for patients hospitalised with COVID-19, according to the presence of AKI, with 95% confidence intervals for the point estimate.

Conclusions: AKI is common among patients hospitalised with COVID-19 and is associated with increased mortality, even at early stages. Inpatient diuretic use was significantly associated with AKI, and the reducing incidence of AKI over time following a peak may reflect a change in clinical practice as the pandemic progressed. Of those that survived, most recovered their renal function and none required ongoing RRT at discharge.

No conflict of interest

POS-030

URINE QUINOLINATE TO TRYPTOPHAN RATIO AT DISCHARGE AND RENAL RECOVERY AT 4 MONTHS AFTER COMMUNITY ACQUIRED AKI: A PROSPECTIVE COHORT STUDY

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Introduction: Incomplete recovery following AKI is being increasingly recognized as a cause of CKD. This is particularly relevant in the context of community acquired AKI (CA-AKI) in developing countries. CA-AKI frequently affects previously normal, young individuals who are exposed to infections, toxins etc. on account of occupational and environmental exposures. Identifying patients at high risk of incomplete recovery from AKI is important at the time of discharge from hospital so that they can be followed up more closely. Impaired quinolinate phosphoribosyl transferase (QPRT) activity as reflected by elevated urine quinolinate/tryptophan ratio (uQ/T) associates with development of AKI and its recovery in limited data. Nicotinamide supplementation has shown promise as a potential intervention in this regard. We tested the hypothesis that uQ/T at hospital discharge would be higher in individuals who would show incomplete recovery at 4 months after CA-AKI as compared to those with complete recovery.

Methods: The study was a prospective, observational cohort study in patients with CA-AKI. Patients with pre-existing kidney disease were excluded. Participants were enrolled during hospital admission and then, followed up at 1 and 4 months after discharge. Urine samples were collected at discharge and stored at -80°C for analysis. Measurement of urine quinolinate and tryptophan levels were done by High Performance Liquid Chromatography. Renal recovery at 4 months was defined as eGFR>60 ml/min/1.73m^{2}and 24-hour urine protein excretion <500 mg. The study population was divided into two groups based on status of renal recovery.

Results: 252 patients with CA-AKI were enrolled. 40 patients expired during the illness and 84 patients did not come for scheduled follow ups. The renal recovery status at 4 months was available for 128 patients who constituted the data set for the present analysis. The most common causes for CA-AKI were infection (49%), obstetric (18%), toxic envenomation (11%) and drug related (7%). Average serum creatinine in the study population at admission was 6.9±3.1 mg/dl. 95 patients received dialysis. Incomplete recovery of renal function at 4 months was observed in 29 out of 128 (22.6%) patients. As compared to group with complete renal recovery at 4 months, age was higher, haemoglobin was lower, and hypertension was more common in group with incomplete renal recovery. Median (IQR) urine uQ/T levels at discharge were 1.47(3.52) and 1.67(4.30) in groups with complete and incomplete renal recovery at 4 months, respectively. The difference in uQ/T at the time of hospital discharge was not statistically significant between the two groups (Figure 1, Table 1).

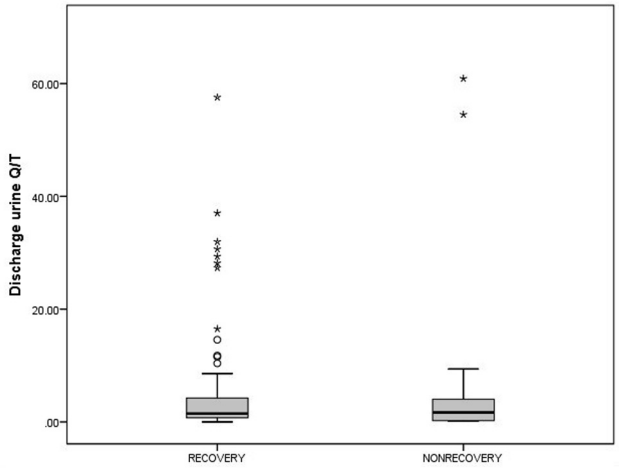

Table 1. Urinary biomarkers at discharge between groups

Parameter	Complete recovery	Incomplete recovery	P value
Urine tryptophan (mcg/ml)	4.82 (12.96)	2.14 (5.52)	0.07
Urine quinolinate (mcg/ml)	10.77 (18.18)	5.32 (19.23)	0.40
Urine quinolinate to tryptophan (Q/T)	1.47 (3.52)	1.67 (4.30)	0.75

Conclusions: Incomplete recovery of renal function at 4 months may be seen in up to 23% of patients who are discharged from hospital after CA-AKI. Anemia, old age and hypertension are associated with incomplete recovery. uQ/T at time of discharge from hospital in CA-AKI are not different between groups with complete versus incomplete renal recovery at 4 months. However, temporal changes in uQ/T during course may offer more insight.

Conflict of interest Corporate sponsored research or other substantive relationships:This abstract has also been submitted for AKI and CRRT 2021

POS-031

ACUTE KIDNEY INJURY IN NEONATES WITH PERINATAL ASPHYXIA: EFFECT OF THERAPEUTIC HYPOTHERMIA

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Introduction: Perinatal asphyxia is an important risk factor for acute kidney injury (AKI) in neonates. A randomised controlled trial of therapeutic hypothermia (TH) showed that along with the improvement in neurocognitive outcomes, there was also a significant reduction in the incidence of AKI. Though TH is now the standard of care for perinatal asphyxia, in developing countries where TH is available only in referral centres, neonates referred beyond the recommended window period of 6 hours do not receive TH. In our