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ABSTRACT SUBMISSION: COVID-19 AND THE KIDNEY
22/09/22 – 25/09/22

POS-001
MITOCHONDRIAL ENZYMES INFUSED INTO THE KIDNEY UNDER HYDRODYNAMIC PRESSURES SIGNIFICANTLY IMPROVES CREATININE AND BUN LEVELS AT THE ONSET OF MODERATE AND SEVERE ACUTE KIDNEY INJURIES
Corridon, P*1
1Khalifa University of Science and Technology, Department of Immunology and Physiology, Abu Dhabi, United Arab Emirates

Introduction: The COVID-19 pandemic has highlighted the need to address how renal insults are treated. There is an urgent need to better understand the complex relationship between infections and kidney disease and develop safe and effective approaches that can be translated to the clinic. Hydrodynamic fluid delivery has shown promise in influencing renal function in disease models. This technique previously provided preconditioned protection in acute injury models by upregulating the mitochondrial adaptation, while hydrodynamic injections of saline alone have also improved microvascular perfusion. Accordingly, hydrodynamic mitochondrial gene delivery was applied to investigate its ability to halt renal impairment that may occur following episodes of acute moderate and severe injuries in a rat model.

Methods: Transgene infusates were prepared by suspending approximately 2 μg of IDH2 (isocitrate dehydrogenase 2 (NADP+)- and mitochondrial) plasmid DNA/g of body weight in 0.5 ml of saline. Animals were subjected to moderate (bilateral pedicle clamp 30 mins) or severe (bilateral pedicle clamp 60 mins) forms of ischemia-reperfusion injury (IRI). Infusates were delivered directly into the left renal vein within 5 seconds, roughly 1 hour after IRI was established. Serum creatinine (Scr) and blood urea nitrogen (BUN) levels were monitored for 2 weeks.

Results: Significant reductions in the levels of both metabolites (p < 0.05 for both cases) were achieved with single transgene treatments administered at both time points. Speciﬁcally, the maximal rises in Scr and BUN levels were reduced by at least 50%, which translated the effects of a severe injury to a moderate injury and a moderate injury to a mild injury.

Conclusions: Therefore, this study identifies an approach that boosts recovery and halts the progression of ischemia-reperfusion at its inception and can be vital for high-risk conditions and may help devise translation models to address the rising incidence of acute renal diseases. No conﬂict of interest

POS-002
POST COVID VACCINE ACUTE KIDNEY INJURY: A CASE REPORT
Kar, S*1, Das Gupta, D2
1Sylhet M A G Osmani Medical College, Nephrology, Sylhet, Bangladesh, 2Sylhet M A G Osmani Medical College, Pharmacology, Sylhet, Bangladesh

Introduction: We hereby present a case of acute kidney injury following COVID-19 vaccine in a school boy in Bangladesh.

Methods: A schoolboy aged 14 years presented to us with face and leg swelling and scanty micturition following two days after Pfizer vaccine for prevention of COVID-19. This was his second dose. He denied any history of sore throat, rash ,itching or joint pain. His first dose of COVID vaccine was uneventful. We did his Urine Routine Examination Albumin was +++ RBC Nil, Hyaline Cast + with no other abnormality . Urine PCR was 3.6. S creatinine was 2.1 mg/dL. Ultrasonography of Kidneys were normal. We did a renal biopsy and it revealed 16 glomeruli having mild mesangial proliferation. Direct Immunofluorescence revealed no deposition.

Results: Patient was admitted to hospital. He was given 12 weeks of prednisolone and other supportive therapy. Patient improved after completion of treatment.

Conclusions: COVID vaccine associated Glomerulonephritis and AKI is a concern. Healthcare professionals at the primary level should make aware of this side effect. No conflict of interest

POS-003
ACUTE KIDNEY INJURY IN CHILDREN WITH COVID-19 RELATED MULTISYSTEM INFLAMMATORY SYNDROME (MIS-C)
Wani, A*1
1Sylhet M A G Osmani Medical College, Pharmacology, Sylhet, Bangladesh

Introduction: Although children with coronavirus disease 19 (COVID-19) generally experience a mild disease, a subset of them develop multisystem inflammatory syndrome (MIS-C) which can lead to multiorgan failure. There is relative rarity of literature regarding acute kidney injury (AKI) in MIS-C. We aim to characterize the clinical features, laboratory findings, and therapies for AKI in MIS-C in our setup.

Methods: This was a 1 1/2 year prospective study with patients from GMC Srinagar, its associated hospitals and Shifa Medical Centre, Srinagar. Children <21 years old who had AKI and met the criteria for MIS-C based on CDC guidelines were included in the study.

Results: A total of seven cases were included in the study ranging from 4 to 20 years (mean 11.4±5) with 4 females and 3 males. Persistent fever was present in all patients. Six children had vomiting/diarrhea along with rashes and/or swelling of hands. Myocardial involvement was seen in four, respiratory in two and musculoskeletal in one patient. Oropharyngeal swab for SARS-CoV-2 RNA was negative in all the patients. Anticovid antibodies were positive in five patients and two had a history of contact with COVID-19 patients. AKI Stage 1 was present in 3, stage 2 and 3 in 2 patients each. Neutrophilia with lymphopenia was seen in all the patients and thrombocytopenia in 4 patients. Laboratory findings for inflammatory markers showed marked elevation of C-reactive protein (mean 87.6±72.1mg/l), ferritin (mean 810±224ng/ml), procalcitonin (mean 4.9±2.1ng/ml), ESR (mean 64.6±21.9mm/hr), fibrinogen (690±142.1mg/dl), LDH (mean 578.2±370.1U/L) and D-Dimer (mean 7.8±9.4 pgFFU/ml). The patients were treated with a combination of steroids, IVig and inotropic support wherever needed. All of the patients recovered with a median duration hospital stay of 7 (IQR 5) days.

Conclusions: Children with covid-19 infection should be carefully followed for MIS-C. Although children with MIS-C develop AKI, most of them have full clinical recovery. The long term prognosis of this syndrome is currently unknown until their follow up data becomes available in future. No conflict of interest

POS-004
NEUTRALIZING ANTI SARS-COV-2 ANTIBODY RESPONSE TO COVID-19 VACCINES: CHADOX1-NCOV-19 AND BBV152 AMONG HAEMODIALYSIS PATIENTS
Selvanathan, D*1, parthasarathy, R1, Rohit, A1, Venkatramanan, S1, dsouza, C2
1Madras Medical Mission, Nephrology, CHENNAI, India, 2Nitte DSTNutech, biostatistics, mangalore, India

Introduction: Maintenance haemodialysis patients(MHD) are at high risk of contracting COVID-19 infection. Till date, few studies have shown an attenuated immune response to vaccination among haemodialysis patients. The present study examines the humoral response to ChAdOx1-nCoV-19 and BBV152 among this vulnerable population.

Methods: We prospectively assessed neutralizing anti SARS-CoV-2 antibody titres (miniVidas bioMerieux, France) in 116 vaccinated patients and thrombocytopenia in 4 patients. Laboratory in our setup.

Results: A total of seven cases were included in the study ranging from 4 to 20 years (mean 11.4±5) with 4 females and 3 males. Persistent fever was present in all patients. Six children had vomiting/diarrhea along with rashes and/or swelling of hands. Myocardial involvement was seen in four, respiratory in two and musculoskeletal in one patient. Oropharyngeal swab for SARS-CoV-2 RNA was negative in all the patients. Anticovid antibodies were positive in five patients and two had a history of contact with COVID-19 patients. AKI Stage 1 was present in 3, stage 2 and 3 in 2 patients each. Neutrophilia with lymphopenia was seen in all the patients and thrombocytopenia in 4 patients. Laboratory findings for inflammatory markers showed marked elevation of C-reactive protein (mean 87.6±72.1mg/l), ferritin (mean 810±224ng/ml), procalcitonin (mean 4.9±2.1ng/ml), ESR (mean 64.6±21.9mm/hr), fibrinogen (690±142.1mg/dl), LDH (mean 578.2±370.1U/L) and D-Dimer (mean 7.8±9.4 pgFFU/ml). The patients were treated with a combination of steroids, IVig and inotropic support wherever needed. All of the patients recovered with a median duration hospital stay of 7 (IQR 5) days.

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