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.

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Introduction: The effective control of coronavirus disease 2019 (COVID-19) can be achieved by implementing a global vaccination strategy. After millions of mRNA vaccines targeting severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) have been administered worldwide, several reports have shown the cases with gross hematuria following the mRNA vaccine against SARS-CoV2 in patients with glomerulonephritis, especially immunoglobulin A nephropathy (IgAN). In Japan, healthcare workers were initially vaccinated with mRNA vaccines from February 17, 2021, and we experienced the several cases showing gross hematuria after the administration of the second dose of an mRNA vaccine among these vaccinated healthcare workers; thus, we conducted a web-based survey of the councilor members of the Japanese Society of Nephrology to elucidate the frequency and clinical course of gross hematuria after receiving the COVID-19 vaccination.
Methods: We sent the emails to the councilor members (581 members from 382 facilities) and asked them whether they experienced the case of gross hematuria following the mRNA vaccine. Then, we asked the following questions to those who reported the cases of hematuria; the incidence of elevated serum creatinine levels, the amount of proteinuria and hematuria, and pathological diagnosis in the case whom a renal biopsy was performed.
Results: In reply to the email, 27 cases showed gross hematuria after receiving a COVID-19 vaccine. Our survey showed that the incidence of gross hematuria was skewed toward females, with 22 cases (81.4%). In 18 cases (66.7%), gross hematuria was disappeared by three days after appearance. Nineteen cases (70.4%) have been already diagnosed with IgAN before the occurrence of gross hematuria. Eight cases showed proteinuria and five did hematuria for the first time after vaccination. According to the tracking study, we found that a renal biopsy was performed after vaccination in four cases, all of whom were diagnosed with IgAN. Only one case showed a slightly increased serum creatinine level, however no patients progressed to severe renal dysfunction, during the observation period.
Conclusions: We investigated the clinical characteristics of gross hematuria after COVID-19 vaccination in Japan. Our study showed that the incidence of hematuria was more common in females than males. The duration between the vaccination and the appearance of gross hematuria was within two-five days and the hematuria disappeared following a few days. Since there were no cases who showed obvious progression to severe renal dysfunction in our survey, the present mRNA vaccination protocol induced transient macrohematuria without continuous aggravation of renal function. Further studies are needed to clarify the underlying mechanism of gross hematuria following COVID-19 vaccination.

No conflict of interest

POS-888

COVID 19 PATIENTS WITH A NEPHROLOGIC CONCERN: A DESCRIPTIVE STUDY FROM A SINGLE CENTER IN TUNISIA

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Introduction: COVID 19 was characterized as a pandemic by the WHO since march 2020.peoples all over the world suffered from this infection but patients with chronic diseases such as kidney impairment were seriously affected. Moreover, a varied pattern of kidney injury was described with COVID 19.the purpose of our study was to relate demographic, clinical and biological features in patients infected by the SARS-Cov 2 and referred either to our nephrology department or hemodialysis (HD) center.
Methods: We retrospectively collected data about patients with a nephrologic matter, who suffered from COVID 19 between October 2020 and march 2021.
Results: 100 patients were included.54% were men and 46% were women. The mean age of the patients was 59.55±15.5 years.63% were hospitalized and the others were dialyzed in our HD unity. 5% of the hospitalized patients experienced a severe form and were admitted in the nephrology intensive care unit.40% were diabetic and 55% were hypertensive.21% had a cardiopathy and 81% had a chronic kidney disease. Among them 47% were on HD ,7% were transplanted and one patient received peritoneal dialysis.29% were obese and 4% were active smoker. A positive contact tracing with a COVID 19 confirmed case was found in 43% of cases. As for Clinical severity of the infection:18% of our patients had no symptoms,40% had a mild infection ,19% had a moderate disease and 23% had unfortunately a severe form. The most frequent symptoms were respectively: asthenia (47%), fever (43%), dry cough (43%), dyspnea (43%), diarrhea (25%) and arthromyalgia (19%). The profile of kidney impairment occurred within SARS Cov2 infection was as follow: acute kidney injury in 11%, altered chronic renal function in 23%, hematuria in 3.2% and proteinuria in 6.4% of all cases. main laboratory findings were lymphopenia (38%), lactate dehydrogenase elevation (46%), metabolic acidosis (36%), hypoalbuminemia (21%), hyponatremia (16%), hyperkaliemia (16%), low prothrombin time (11%). CT Scan imaging of the chest showed mild lung injury in 25%, moderate lung injury in 27% and severe lung injury in 20% of all patients. The main pejorative outcomes noted were: respiratory bacterial superinfection (19%), hemophagocytic lymphohistiocytosis (6%) and acute severe respiratory syndrome (5%). finally,88% of our patients had a global favorable outcome and were discharged from hospital but unfortunately 12% died.
Conclusions: According to our study, demographic and clinical characteristics of nephrologic patients seems to be similar to the general population but they may be more exposed to serious outcomes especially death.

No conflict of interest

POS-889

HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS SECONDARY TO COVID-19 IN PATIENTS WITH CHRONIC KIDNEY DISEASE: WHEN WORSE COMES TO WORST

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Introduction: Recently, secondary hemophagocytic lymphohistiocytosis (sHLH) has been reported in many cases mostly with critically-ill COVID-19 patients. However, the optimal therapeutic approach is still unclear especially in patients with chronic kidney disease.
Methods: Eight patients with chronic kidney disease were admitted to our nephrology department for COVID-19 infection. Diagnosis was confirmed by a positive reverse transcriptase-polymerase chain reaction assay of a nasopharyngeal swab for SARS-CoV-2. All showed hyperinflammation. sHLH was confirmed by using Hscore.
Results: We included eight patients: five men and three women.Mean age was 54.1 years.The initial nephropathies were: diabetic (2 cases), nephroangiosclerosis (2 cases), systemic lupus erythematosus, ANCA vasculitis, Fabry disease and one case of plasma cell leukemia discovered during this infection. The initial presentation was marked by dyspnea (7 cases / 8), digestive symptoms (5 cases / 8), fever (3 cases / 8). Seven patients had dyspnea with a mean saturation on room air of 87.5 ± 5.2% requiring oxygen therapy with a mean flow rate of 9 ± 5 l/min. The use of nasal high Flow therapy was required in 3 patients. Chest CT scans showed 25 to 50% ground glass opacities with crazy paving sign in 3 cases and 50 to 75% in 4 cases.The only patient who did not present with respiratory symptoms was a kidney transplant recipient who presented with diarrhea. All patients had fever> 38°C either on admission or within 72 hours.The blood count abnormalities were dominated by: lymphopenia, anemia and thrombocytopenia with respectively means of 0.513±0.282 10^9cells/L; 7.3± 2.1 g/dl; 146x 10^9cells/L. The mean ferritinemia and triglycerides were 1702.1 µg/L and 4.2±1.3mmol/l, respectively. Organomegaly was found in one patient and fibrinogen was low in one patient (not available in 5 cases). Bone marrow aspiration was performed within 2 to 7 days after admission and showed haemophagocytosis.The mean Hscore was 192.5. Patients with dyspnea received intravenous dexamethasone (6 mg/day). All patients received intravenous immunoglobulins (0.4g/kg/day for 5 days) except a patient who responded well to corticosteroids alone. The outcome was favorable for seven patients with withdrawal from oxygen therapy within 3 to 5 days, only one death was noted in the 34-year-old patient with ANCA vasculitis with respiratory distress syndrome. The

patient with plasma cell leukemia received appropriate chemotherapy but the renal outcome was unfavorable requiring definitive hemodialysis. The absence of haematological response lead to her death 5 months after her discharge.

Conclusions: Given the absence of a curative treatment for covid-19, sHLH must be screened in patient with chronic kidney disease because early and intensive management by immunomodulatory agents may control this cytokine storm since it is a potentially life-threatening multi-organ failure.

No conflict of interest

POS-890

SECONDARY HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS SYNDROME REVEALING PLASMA-CELL LEUKEMIA IN A COVID-19 PATIENT PRESENTING WITH KIDNEY INJURY

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Introduction: Plasma cell leukemia (PCL) is a rare, but very aggressive, plasma cell dyscrasia defined by an increased percentage of circulating plasma cells (>20%) and/or absolute number ($>2 \times 10^9$/l) of plasma cells in the peripheral blood smear. In this pandemic COVID-19, we report the first case of secondary hemophagocytic lymphohistiocytosis (sHLH) syndrome revealing PCL in women affected by SARS- CoV-2 with severe Kidney failure.

Methods: Case reviewed.

Results: A 66-year-old female patient, with hypertension and diabetes mellitus type-2,presented to nephrology department with dyspnea and severe renal impairment.On physical examination:no obvious infection site,temperature 37°C,saturation at 86% on room oxygen,no volume overload,urine output estimated at 2000mL/day and a negative urine dipstick.Laboratory evaluation showed a white blood cell count $3.7x10^9$/L,lymphopenia 0.6 $x10^9$/L,hemoglobin 9.1g/dL and platelet $70x10^9$/L,serum creatinin 10.56 mg/dl,calcium 2.2 mmol/l,high C reactive protein 240mg/l,high procalcitonin 8.08 ng/ml and elevated lactate dehydrogenase 707 U/l.Renal dimensions obtained by Abdominal CT-scan were 10 cm and 9.8cm for the left and the right kidney respectively.Due to the pandemic circumstances, the patient underwent a SARS-CoV2 on real-time reverse transcriptase polymerase chain reaction (RT-PCR) that came back positive. According to our local guidelines, we initiated dexamethasone 6mg/day, prophylactic anticoagulation,empirical antibiotic with Cefotaxime and Ofloxacin with partial improvement in blood count (white blood cell count $6.04x10^9$/L,hemoglobin 10.2 g/dL and platelet count $136x10^9$/L).The patient's respiratory condition rapidly deteriorated requiring High-Flow Nasal Canula with oligoanuria requiring hemodialysis.Renal biopsy was not performed due to respiratory condition but we mentioned a chronic kidney disease in a diabetic and hypertensive women with currently acute tubular necrosis related to the COVID-19.On Day 17,the patient developed Catheter-related sepsis, treated by intravenous piperacillin tazobactam 4g twice a day(10days).Despite favorable clinical outcomes (apyrexia and stopping oxygen therapy),count blood cell showed severe pancytopenia(white blood cell count $2.9x10^9$/L,hemoglobin 6.6 g/dL,platelet count 96 x 10^9/L) with ferritin level at 3901ng/ml and triglyceride at 3.27mg/l.The sHLH was suspected and bone marrow aspiration was performed which demonstrated in addition to hemophagocytosis,diffuse infiltration with 97% atypical plasma-cells.Peripheral blood smear revealed 22% rate of circulating plasma-cells.The diagnosis of primitive PCL with sHLH was retained.Our patient received four days of intravenous dexamethasone 40 mg/day and intravenous immunoglobulin 0.4g/kg/day (5days).Patient's condition improved with regression of biological inflammatory syndrome.The renal failure persisted requiring management by hemodialysis.The patient was referred to hematology department for chemotherapy.

Conclusions: To conclude,It is difficult to distinguish if sHLH is due to SARS-CoV-2 itself,to co-infections by other microorganisms,or other etiologies.Thus, bone marrow examination and blood smear should be performed in COVID-19 patients presenting with cytopenia whenever possible.Due to the aggressive behavior of PCL,treatment should start as soon as possible.Severe kidney injury at presentation may be predictive of worse renal outcome.

No conflict of interest

POS-891

HEMODIALYSIS PATIENTS WITH SEVERE COVID-19: REDUCED ANTIBODY RESPONSE

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Introduction: Because patients on maintenance hemodialysis (HD) have an impaired immune response to pathogens, they are at higher risk of severe coronavirus disease 2019 (COVID-19). However, data on antibody production among HD patients with COVID-19 is scarce. Thus, we performed a retrospective cohort study evaluating severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) antibody production within 1 month after COVID-19 onset in hospitalized patients on HD.

Methods: SARS-CoV-2-specific immunoglobulin (Ig) G levels were quantified using an iFlash 3000 Chemiluminescence Immunoassay analyzer (Shenzhen YHLO Biotech Co., Ltd.) to detect IgG antibodies specific for the S1 subunit of the spike protein (IgG-S1). Propensity score matching was used to balance covariate distribution in HD and nonHD patients. From April 2020 to February 2021, antibody testing was performed on 161 hospitalized patients with symptomatic COVID-19. Of them, 34 HD patients were matched to 68 non-HD patients.

Results: After propensity score matching, the median levels of IgG-S1 in the HD patients at 7–13 days after symptom onset were significantly lower than in non-HD patients, especially in those with severe disease. Among all patients, those with severe disease produced lower levels of IgG-S1 at 7–13 days compared with non-severe patients.

Conclusions: COVID-19 patients with severe disease, especially those with undergoing HD, had lower IgG-S1 production in the second week of the disease. Thus, the increased risk of severe COVID-19 in HD patients may be, in part, due to a slow and reduced antibody response.

Conflict of interest

Potential conflict of interest:

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POS-892

PRESENTATION AND OUTCOMES OF CHRONIC KIDNEY DISEASE PATIENTS WITH COVID-19

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Introduction: COVID-19 is currently a global health issue and an important cause of mortality. Chronic kidney disease (CKD) is one of the risk factors for infection, morbidity and mortality by SARS-CoV-2. In our study, we aim to evaluate the clinical presentation and outcomes of CKD patients with COVID-19, as well as identify predictors of mortality.

Methods: This was a retrospective study of CKD patients admitted in a tertiary-care Portuguese hospital between March and August of 2020. CKD was defined as glomerular filtration rate lower than 60mL/min/1.73m^2. Variables were submitted to univariate and multivariate analysis to determine factors predictive of in-hospital mortality.

Results: 130 CKD patients were analyzed (median age 73.9±12.2 years, male 60.0%). Hypertension (81.5%), cardiovascular disease (36.2%)