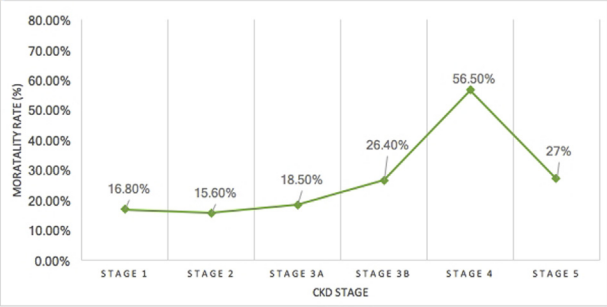
Methods: This cross-sectional study was conducted in Baqiattollah Hospital in January of 2021. From patients admitted to the hospital and hospitalized for more than three days at the time of the study, 500 patients were randomly selected. Furthermore, patients with missing data regarding the previous history of kidney disease or without a previous documented serum creatinine were excluded from this study. The data required for this study was obtained from the hospital records of the patients, and we used the Modification of Diet in Renal Disease equation (MDRD) for evaluating the glomerular filtration rate (GFR). CKD staging defined based on KDIGO definition.
Results: Table 1 demonstrates mortality and comorbid disorders in different stages of CKD. Pearson's χ^2test indicated that the Stage of CKD is significantly associated with a mortality rate (P-Value <0.05). Our results indicate that the mortality rate gradually increases with the stage of CKD, but interestingly, patients on dialysis machines have a lower mortality rate than patients with Stage 4 of CKD (Fig.1).

Table 1: demographic information and Comorbidities in different stage of chronic kidney disease in COVID-19 patients

	Stage 1 (n=154)	Stage 2 (n=198)	Stage 3A (n=54)	Stage 3B (n=34)	Stage 4 (n=23)	ESRD (n =37)
Age						
Mean	48.62	58.14	64.43	67.84	65.71	61.41
Standard deviation	14.63	11.96	12.91	14.35	14.32	17.57
Sex						
Male	98(63.6%)	112(56.6%)	24 (44.4%)	19 (55.9%)	13 (56.5%)	21(56.7%)
Female	56(36.4%)	86 (43.4%)	30 (55.6%)	15 (44.1%)	10 (43.5%)	16 (43.3%)
Mortality rate	16.8%(26)	15.6% (31)	18.5% (10)	26.4% (9)	56.5% (13)	27% (10)
Comorbidities						
Diabetes	69(44.8%)	81 (40.9%)	31 (57.4%)	17(50%)	13 (56.5%)	12 (32.4%)
Hypertension	51 (33.1%)	52 (26.2%)	30 (55.6%)	21 (61.7%)	10 (43.5%)	22 (59.4%)
Ischemic heart disease,	13 (8.4%)	26 (13.1%)	8(14.8%)	7 (20.1%)	5 (21.7%)	6(16%)

Fig 1: mortality rate in different stage of chronic kidney disease in COVID-19 patients



Conclusions: Our results indicate that although higher than the normal population, the mortality rate of ESRD patients on dialysis is significantly lower than stage 4 disease. Several studies have suggested that patients with CKD are more likely to develop acute kidney injury (AKI) in the course of the COVID-19. AKI interferes with routine treatment procedures and can initiate multi-organ failure. Since many of the patients with early stages of CKD are not aware of their condition, it is necessary to screen the hospitalized patients for CKD to prevent kidney failure in these patients.

In summary, our study suggested that CKD is significantly associated with the mortality rate in COVID-19 patients, and the mortality rate in patients with dialysis is significantly lower than stage 4 of the CKD. It is essential to initiate screening or CKD in COVID-19 patients as soon as possible to avoid the overriding AKI and consequence poor outcome.

No conflict of interest

POS-548

GLOMERULAR FILTRATION STATE OF CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS ACCORDING TO CYS-C INDICATORS

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Introduction: According to modern literature reveiw, it is believed that about 8% of children with juvenile idiopathic arthritis (JIA) have chronic kidney disease. Subclinical kidney damage in JIA remains undiagnosed in real clinical practice. Kidney damage can manifest itself as a complication of the underlying disease or, as a consequence, its long-term treatment.The structure of renal pathology in JIA is represented by secondary amyloidosis, glomerulonephritis, tubulo-interstitial nephritis.
Methods: We investigated the level of cystatin C (Cys-C) in the blood of 80 children with JIA. The age of the subjects was from 3 to 17 years. The calculation of the glomerular filtration rate (GFR) was carried out twice (the first and third months of the study) on the basis of the concentration of Cys-C and creatinine in serum according to the methods: Hoek F.J. et al. (2003), Equation based on cystatin C (2012), Schwartz and Counahan-Barratt (2012).
Results: Cys-C averaged 0.886 ± 0.1495 (0.84; 0.79-0.98) µg / ml. The average GFR according to the 2012 equation based on cystatin C was 81.04 ± 12.129 (82.92; 71.74-88.53) ml / min / 1.73 m2, which is significantly lower than with the same GFR calculated using the method Hook - 88.81 ± 14.948 (91.05; 77.32- 98) ml / min / 1.73 m2, p <0.01.

The percentage below normal GFR calculated using the 2012 equation based on cystatin C was twice that calculated using Hook's formula: 65 (81.3%) versus 33 (41.3%) cases (p <0.001 according to McNemar's test).

Analysis of the frequency of GFR decline, calculated on the basis of creatinine and Cys-C, also revealed a number of significant differences.

Thus, the cystatin C-based equation technique compared with Schwartz and Counahan-Barratt 2012 methods overestimated the incidence of GFR abnormalities by 81.3% (p <0.001) and 47.5% (p <0.001), respectively, in the first month of the study and 81 respectively 3% (p <0.001) and 55.0% (p <0.001) in the third month.

A similar comparison with Hook's method showed that according to the Schwartz formula, GFR decreased by 41.3% less often (p <0.001) both in the first and in the third month. The Counahan-Barratt formula did not show significant differences in the first study of creatinine (difference 7.5%, p <0.05), and the second study showed that the decrease in GFR according to the Counahan-Barratt was recorded 15.0% less frequently than according to the data on Hook's method - a deviation close to the level of significance, p <0.09.
Conclusions: A more subtle method for detecting subclinical kidney damage in children with JIA is to determine the level of cystatin C followed by calculating the glomerular filtration rate, according to Hook's formula. The concentration of Cys-C was directly related to the duration of the use of non-steroidal drugs (ρ = 0.44, p <0.04), thus, the lengthening of their use had a negative effect on GFR (ρ = -0.44, p <0.04) . And, conversely, with an increase in the duration of immunobiological therapy, the level of cystatin C in the blood decreased (ρ = -0.48, p <0.02) and GFR increased (ρ = 0.48, p <0.02). When detecting a decrease in GFR in children with JIA, it is necessary to limit the intake of non-steroidal anti-inflammatory drugs and increase the basic therapy.

No conflict of interest

POS-549

ADDING UREA THERAPY FROM THE 1890'S TO 21ST CENTURY STANDARD OF CARE

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Introduction: Congestive heart failure (CHF) is present in approximately 2 to 3% of patients older than age 65 years and is 5 to 10% in patients beyond age 75 years. Hyponatremia is a marker of mortality in patients with CHF. Standard therapy includes loop diuretics, but this is sometimes limited by extensive salt losses and diuretic resistance. Vasopressin antagonists like tolvaptan (PO) and conivaptan (IV) are another option in these difficult to treat patients, but use is limited due to availability, price, and side effects that