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.

Methods: This prospective multicenter study was started in June 2016, comprising 2123 HD patients recruited from twenty-five Egyptian HD centers. Patients were classified according to HD duration into two groups: Incident group including patients with HD duration equals to or less than six months, and a prevalent group including patients who had been maintained on HD for more than six months. All patients were observed for one and a half years, and their demographic data, laboratory findings, and mortality events were recorded.
Results: In comparison to the prevalent group, the incident HD patients showed significantly lower hemoglobin, serum albumin, urea reduction ratio, serum phosphorus, and serum ferritin but higher average erythropoiesis-stimulating agents (ESA) dose. There was significantly a higher number of patients with hypertension in the incident group, while there was no significant difference in diabetes mellitus or ischemic heart disease in both groups. There were a higher number of patients with positive hepatitis C virus antibodies and hyperparathyroidism in the prevalent group. By the end of the study, the mortality frequency was found to be significantly higher in the incident than the prevalent groups. Older age and corrected serum calcium were significant predictors of mortality in the total studied group as well as the prevalent group. However, no significant predictors of mortality could be detected in the incident group.
Conclusions: The incident HD group tends to show a higher frequency of hypertension, higher values of laboratory findings suggestive of malnutrition as well as a higher frequency of mortality with a different pattern of mortality predictors compared to the prevalent group.

No conflict of interest

POS-595

RECOVERY OF RENAL FUNCTION AFTER DIALYSIS DEPENDENCY FOR 7 YEARS: A CASE REPORT AND LITERATURE REVIEW

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Introduction: While well recognised, recovery of renal function in dialysis-dependant patients is uncommon. We report a case of renal recovery in a patient who had been dialysis dependent for almost seven years.
Methods: An 89-year-old man was started on haemodialysis in May 2013. The patient had been followed in renal outpatients for several years with generalised atherosclerosis and had undergone bilateral renal artery stenting in 2007. After stenting, the patient's kidney function had remained stable at a creatinine between 200 and 250 mmol/L, eGFR 20 – 25 mL/min. However, in May 2013 he presented to the A&E department with fluid overload and a sharp deterioration in renal function. CT renal angiography showed a fully patent right renal artery but an in-stent stenosis of <50% on the left side. There was no indication for intervention.

The patient's renal function did not recover and he was started on haemodialysis. This was initially via a tunnelled dialysis catheter, but after six months he switched to dialysis via a radiocephalic fistula.

In January 2020, the patient's serum creatinine started to fall onhis pre-dialysis bloods, raising the possibility of recovery of renal function. His weight and muscle mass was unchanged and he was clinically well. Investigation showed a 48-hour urine output of 1.7 litres and a 48-hour creatinine clearance of 89 mL/min.

The patient's dialysis was suspended in April 2020 and his kidney function was monitored twice weekly for a month. He remained well and clinically euvolemic. The patient is now under follow up in a general nephrology clinic, has remained dialysis free for more than seven months, and his eGFR has remained stable at around 30 mL/min.
Results: This case demonstrates an unusually late recovery of renal function.Previous studies have shown that approximately 1% of patients starting dialysis recover renal function.

ANZDATA reports a higher likelihood of renal recovery in patients with cortical necrosis, autoimmune disease, paraproteinaemia and haemolytic uremic syndrome, followed by those with renovascular disease. Swedish registry report suggests that patients with renovascular disease have the highest probability of renal recovery, while patients with autosomal dominant polycystic kidney disease are the least likely to recover kidney function.

The longest recovery times (from the start of dialysis to the last date of dialysis) in the Swedish report are 1415, 1506 and 2081 days. The fourth longest recovery time, and the longest in a patient with renovascular disease, is 1126 days. The ANZDATA report shows a median recovery time of 5.5 months with a maximum time of 5.8 years, while the longest recovery time in the US report is 15.3 months.

Our patient remained dialysis-dependant for almost seven years (2524 days) before recovering renal function. We believe that it is the longest time for recovery to dialysis independence yet reported.
Conclusions: Recovery of renal function recovery is easy to miss in patients on dialysis, especially when they have been receiving dialysis for many years. It is important that the possibility of renal recovery is kept in mind while reviewing these patients. The main clues may include an unusually well patient with a decreasing pre-dialysis urea or creatinine, an unusually good volume status, and high urine output. Unless the possibility of renal recovery is considered, it may very well be missed.

No conflict of interest

POS-596

EFFECT OF DRY WEIGHT GAIN TO INCIDENCE OF INTRADIALYTIC HYPERTENSION AT HEMODYALISIS UNIT IN GUMAWANG

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Introduction: Intradialytic hypertension (HID) is a complication of hemodialysis which is often overlooked and focuses on hypotension (22-55%), however Intradialytic hypertension is a complication that is of concern as well with an incidence of 5-15%. This is related to patient morbility and mortality. One of the efforts to prevent intradialytic hypertension is to determine the risk factors for intradialytic hypertension. Based on patient characteristics and underlying pathophysiological mechanisms, factors of age, duration of hemodialysis, injection of ESAs, and amount of anti-hypertensive drugs have been associated with the incidence of intradialytic hypertension, but dry weight gain associated with UF Goal volume is of particular concern, therefore more extensive research is needed.
Methods: This study aims to determine the relationship between dry weight gain and the incidence of intradialytic hypertension. This research method is cross sectional, using a descriptive analytic study. The number of subjects was 31 of inclusion criteria.
Results: The factors that became variables consisted of gender, age, duration of Haemodialysis, injection of ESAs, etiology, and use of antihypertensive drugs which did not show a statistically significant relationship, the Chi Square test results with p value> 0.005. With Chi Square test, which categorizes the variable dry weight gain> 5% and <5% on the incidence of intradialytic hypertension, it shows significant results with p value = 0.000 (P <0.005). Likewise, measuring systole and diastole, the Paired T-Test results showed a value of p = 0.000 (p <0.005).
Conclusions: Variables such as sex, age, duration, etiology, hypertension drug, and injection of ESAs did not have a statistically significant relationship. However, it cannot be concluded whether these variables are protective factors or risk factors for the incidence of intradialytic hypertension The dry weight gain or UF Goal volume has a statistically significant relationship to the incidence of intradialytic hypertension.

No conflict of interest

POS-597

COVID-19 IN ESRD PATIENTS WITH HEMODIALYSIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction: Since the emergence of the COVID-19 pandemic, patients with SARS-CoV-2 infection have been seen to have various presentations and outcomes. Several recent studies had explored the differences in characteristics and outcomes of COVID-19 in the different patient population, and some with renal complications. There is, however, no systematic review of ESRD patients with hemodialysis who are infected with SARS-CoV-2. We performed a systematic review to evaluate the prevalence and case fatality rate (CFR) of COVID-19 infection in ESRD patients with hemodialysis.
Methods: Systematic search was conducted using PubMed, Embase, Scopus, Web of Science, and CENTRAL for observational studies of COVID-19 infection in hemodialysis patients with prevalence or case fatality outcomes in the English language up to June 30, 2020. The meta-analysis was done using a random-effects model. Outcomes were prevalence and CFR with 95% confidence intervals. Also, global COVID-19 data were retrieved for estimating the prevalence and CFR of the general population as referencing points.
Results: Of 3,272 potential studies, 14 studies were included in the meta-analysis (13,883 patients in 7 countries). Seven studies (13,172 patients in five countries) contained prevalence data whereas ten studies (2,626 patients in 7 countries) had case-fatality data. The pooled prevalence of COVID-19 in HD patients was 6.8% (95% CI 4.9 – 9.1%) which was significantly higher than the global average prevalence (0.1%, 95% CI 0.1–0.1%). The overall case fatality rate in hemodialysis patients was 17.8% (95% CI 10.8 – 24.9%) which was significantly higher than the global average CFR (5.0%, 95% CI 5.0 – 5.0%).
Conclusions: The prevalence and case fatality rate of SARS-CoV-2 infection in hemodialysis patients across the globe are significantly higher than the global average.

No conflict of interest

POS-598

CLINICAL STUDY EVALUATING IRON STATUS AT END-STAGE RENAL DISEASE PATIENTS ON HEMODIALYSIS

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Introduction: One of the main defects in the diagnosis of iron deficiency in chronic kidney disease patients is the inaccuracy of commonly used tests. Initial studies have shown that the Reticulocyte hemoglobin content (CHr) test is a promising test in improving the diagnosis of iron deficiency. The purpose of this study was to compare the Reticulocyte hemoglobin content (CHr) test with the well-known tests for the diagnosis of iron deficiency, Transferrin saturation (Tsat), ferritin test, and Hemoglobin concentration to determine which is most accurate and effective.
Methods: A number of participants are 75, all study participants will undergo laboratory tests twice at baseline and end of the study, laboratory tests are: (Tsat, ferritin, CHr, Hb, BUN, creatinine blood test, Blood Urea concentration, ALT, AST, Serum Iron, and TIBC), participants consist of two groups, (Group1) 44 adult patients, with end-stage renal disease on hemodialysis from Kidney Department of Tanta University Teaching Hospitals, (Group 2) 30 adult healthy participants, were randomly selected from the community. Each patient was followed for four months. Patients whose CHr < 29 pg, were given intravenous sacrofer® 100mg, dose/week for 4 months.
Results: There was no significant difference between groups in the final mean Transferrin saturation (Tsat) and Serum ferritin test. The mean CHr remained in the targeted range (30.9 —32.4 pg) throughout the study period in both groups. There are a statistically significant difference means of CHr and Hb for Group 1 at baseline and final P values were 0.0372, <0.0001 respectively. CHr has a lower level of test variability compared to serum ferritin and transferrin saturation. In this study, hemoglobin concentration was taken as the gold standard. CHr had sensitivity 60.87% and specificity 98.02%. Serum iron had sensitivity of 58.70% and specificity of 84.16%, while transferrin (TIBC) had sensitivity of 73.91% and specificity of 55.45. The variability (%CV) of CHr was found to have significantly less variation than the other tests, with a CV of 8.31% compared to hemoglobin concentration 18.99%, TIBC 29.07%, Serum iron 44.41%, transferrin saturation of 46.19% and serum ferritin of 50.67%
Conclusions: We have found that, iron deficiency management based on CHr is simple and practical to perform at a little incremental cost. The superior performance of CHr might be explained by a far lower level of test variability compared to serum ferritin and transferrin saturation.

No conflict of interest

POS-599

EXTENDED-HOURS HEMODIALYSIS WITH LIBERALIZED DIET IS ASSOCIATED WITH REDUCED RISK OF NON-CARDIOVASCULAR MORTALITY IN ELDERLY DIALYSIS PATIENTS

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Introduction: As the world's population ages, it is becoming more difficult to improve a prognosis of dialysis patients. Moreover, there are growing concerns about strict dietary restrictions on elderly hemodialysis (HD) patients and consequently the deterioration of nutritional status. Extended-hours HD (≧6 hours per session) is able to offer a liberalized dietary intake strategy as well as better metabolic status and hemodynamic stability. Our hypothesis is that extended-hours HD without dietary restrictions improves survival especially in non-cardiovascular mortality in elderly dialysis patients who are prone to malnutrition. The aim of the present study was to clarify the association between extended-hours HD and non-cardiovascular mortality comparing to conventional HD.
Methods: A retrospective cohort study including 198 consecutive patients who started in-center daytime extended-hours HD (Extended-HD) and 1407 consecutive patients who initiated conventional HD of less than 6 hours per session (Conventional HD) was performed. The main outcome was non-cardiovascular death. The baseline was defined as the time to start outpatient maintenance dialysis. Patients were followed from baseline up to the first 5 years. Kaplan-Meier analysis was used for the survival analysis. The association between treatment groups and non-cardiovascular mortalitywere analyzed using Cox proportional hazard model with multivariable adjustments and propensity-score based method. We also examined competing risk analysis setting the competing event as cardiovascular death. Multivariable adjustment was performed using age, sex, body mass index, serum albumin, hemoglobin, diabetes, cardiovascular disease, malignancy, and vascular accesses.
Results: The median age was 67.1 [54.7-75.5] years in the Extended-HD and 70.7 [62.1-78.0] years in the Conventional HD group. Extended-HD group had a higher prevalence of diabetes (63% vs. 55%) compared to the Conventional HD group. During a median follow-up period of 3.6 years, 225 non-cardiovascular deaths were observed. Extended-HD group showed better event-free survival on non-cardiovascular mortality than Conventional HD overall and for the subgroup >70 years of age on Kaplan-Meier analysis (log-rank $P < 0.001$, $P = 0.002$, respectively). In the fully adjusted Cox proportional hazard model, Extended-HD was associated with a reduced risk of non-cardiovascular mortality in overall patients and the subgroup >70 years (adjusted hazard ratios of 0.39 [95% CI, 0.17-0.88] and 0.20 [95% CI, 0.05-0.81], respectively). The competing risk regression model with fully adjustment also suggested the lower risk of non-cardiovascular mortality in the Extended-HD than the Conventional HD (subdistribution hazard ratio of 0.46 [95% CI, 0.23-0.93]).