MO824 **PREDICTORS OF MORTALITY OF COVID-19 IN CHRONIC HEMODIALYSIS PATIENTS**

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BACKGROUND AND AIMS: Coronavirus disease 2019 (COVID-19) has affected the care of patients on chronic hemodialysis (HD). It has been reported that older adults and those with comorbidities, such as diabetes mellitus, hypertension, cardiovascular disease and chronic kidney disease are prone to develop severe disease and poorer outcomes. By virtue of their average old age, multiple comorbidities, immunosuppression and frequent contact with other patients in dialysis facilities,

chronic HD patients are at particular risk for severe COVID-19 infection. The aim of this study was to compare clinical presentation, laboratory and radiologic data and outcomes between HD and non-HD COVID-19 patients and find possible risk factors for mortality on HD patients.

METHOD: A single center retrospective cohort study including patients on HD hospitalized with a laboratory confirmed COVID-19 infection, from March 1st to December 31st of 2020 and matched them to non-dialysis patients (non-HD) (1:1). Data regarding patient baseline characteristics, symptoms, laboratory and radiologic results at presentation were collected, as well as their outcomes. Categorical variables are presented as frequencies and percentages, and continuous variables as means or medians for variables with skewed distributions. A paired Student's t-test was performed on parametric continuous values or Mann-Whitney for non-parametric continuous variables. Chi-squared test was performed for comparing categorical variables. Logistic regression was used to identify risk factors for mortality on HD patients. A p-value of less than 0,05 indicated statistical significance.

RESULTS: A total of 34 patients HD patients were included, 70,6% male, mean age of 76,5 years, median time of dialysis of 3,0 years. Among them 85,3% were hypertensive, 47,1% diabetic, 47,1% had cardiovascular disease, 30,6% pulmonary chronic disease and 23,5% cancer. The most frequent symptoms were fever (67,6%), shortness of breath (61,8%) and cough (52,9%). At admission, 55,9% of patients needed oxygen supply, one required mechanic ventilation and was admitted to intensive care unit. Regarding laboratory data, the most common features were lymphopenia in 58,9% (median- 795/uL), elevated LDH in 64,7% (median- 255 U/L), raised C-reactive protein in 97,1% (median-6,3 mg/dlL, raised D-dimer in 95,8% (median 1,7 ng/mL), and all patients presented high ferritin (median 1658 ng/mL) and elevated Troponin T (median 130ng/mL). The majority presented with radiologic changes, particularly bilateral infiltrates in 29,4%. Concerning clinical outcomes, the median hospitalization time was 11 days and 13 patients (38,2%) developed bacterial superinfection. Mortality rate was 32,4%. When matched to 34 non-HD patients there was no statistical significant differences in sex, age and comorbidities. The HD group had a tendency to more ventilator support need (p=0,051), higher ferritin and troponin levels (p=<0,001 for both), whereas the non-HD group presented with greater levels of transaminases (p= 0,017). There was o significant difference in hospitalization time (median of 11 vs 7 days, p=0,222) neither in mortality (median of 32,4 vs 35,3%, p=0,798). When the logistic regression was performed, only bacterial superinfection was a predictor for mortality on hemodialysis patients (p=0,004).

CONCLUSION: Our study compared outcomes for COVID-19 patients on chronic HD to non-dialysis patients and showed no difference in hospitalization time nor in death rate. In spite of these results, the mortality in patients on chronic HD is still not negligible, with up to 32% of in-hospital mortality. Bacterial superinfection is a predictive risk factor for mortality. Hence the importance of interventions to mitigate the burden of COVID-19 in these patients, by preventing its spread, particularly in hemodialysis centers.