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MALE SEX IS ASSOCIATED WITH IN-HOSPITAL DEATH IN NON-DIALYSIS CKD PATIENTS WITH COVID-19

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BACKGROUND AND AIMS: Coronavirus disease (COVID-19), caused by Severe Acute Respiratory Syndrome-Coronavirus 2 (SARS-CoV-2) can lead to significant organ injury. CKD has been associated with increased mortality in previous epidemics, and male sex has been correlated with worse outcomes during COVID-19 in the general population. Our aim was to describe the differential effect of sex as a risk factor for in-hospital mortality among non-dialysis CKD subjects.
METHOD: Multicenter, observational cohort study including 136 adult patients with CKD and 136 age- and sex-matched controls who required admission for COVID-19 in three academic hospitals in Spain. Viral infection was confirmed by real-time RT-qPCR and/or serologic testing in all cases. Disease severity on admission was classified according to the WHO—China Joint Mission Report on COVID-19. The presence of CKD was defined as sustained eGFR <60 and >15 ml/min/1.73m2 within the 6 months prior to COVID-19 hospitalization. Demographic and clinical data were gathered from medical records. Outcomes were recorded during the following 28 days after admission. We applied Cox proportional hazards models, adjusted for age, sex, hypertension, diabetes and severe or critical disease at presentation.
RESULTS: Due to the matched design, no differences were found regarding age and sex between cohorts. CKD patients suffered more frequently from hypertension and diabetes and presented higher 28-day mortality after hospital admission due to COVID-19 compared with age- and sex-matched controls (40.4 vs. 24.3%; P=0.004). In adjusted Cox regression analysis among CKD patients, only age (HR: 1.087, 95% CI: 1.047-1.128) and male sex (HR: 1.883, 95% CI: 1.045-3.391) were independent predictors of 28-day mortality. Comparatively, among patients without CKD, only age acted as an independent predictor for 28-day mortality (HR: 1.082, 95% CI: 1.033-1.133). None of the variables included in adjusted regression was able to predict ICU admission in any of the cohorts.
CONCLUSION: Male sex is associated with increased mortality, but not with ICU admission, after hospitalization due to COVID-19 among non-dialysis CKD patients. That effect was not observed among hospitalized controls without CKD.