INTRODUCTION AND AIMS: Nephrology, AC Camargo Cancer Center, Sao Paulo, Brazil

Beatriz Pinedo3, Larissa Fatel3, Stenio Zequi2, Gustavo Guimarães2,3

Aims: To evaluate the correlation of obesity and serum creatinine with health-related quality of life (HRQOL) in adults with chronic kidney disease (CKD) and to determine whether patients with obesity have worse HRQOL than those without obesity.

METHODS: A total of 251 adult patients with CKD stages 3-5 were included. The patients were divided into two groups: those with obesity (GO) and those without obesity (AO). The physical component summary (PCS) and mental component summary (MCS) were used to evaluate HRQOL.

RESULTS: Total serum creatinine was positively correlated with BMI in the GO group (p = 0.16, r = 0.41) and in the AO group (p = 0.04, r = 0.31). When analyzing the eGFR, no significant differences were found in BMI between GO and AO groups (p = 0.18, r = 0.31). The PCS scores were significantly lower in the GO group (p = 0.01, r = 0.31) and the MCS scores were lower in the GO group (p = 0.02, r = 0.29).

CONCLUSIONS: The results suggest that obesity is associated with poor HRQOL in adults with CKD. However, the correlation with BMI is not significant for the eGFR.

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INTRODUCTION AND AIMS: Cardiovascular calcification (CVC) is a major contributor to the high incidence of cardiovascular events (CVE) in chronic kidney disease (CKD). Early CVC markers are actively sought now in CKD for cardio-protective strategy optimization. Few studies examined novel CKD specific factors in parallel. No data are available from Russian CKD patients. We have conducted a cross-sectional study of FGF-23 (sFGF-23), Klotho (sKlotho) and sclerostin (sScl) serum levels along with traditional CKD-related factors such as serum phosphate (sP) and parathyroid hormone (PTH) and some general factors such as blood pressure, and examined their independent association with CVC in CKD patients.

METHODS: 131 CKD stage 1-5D patients were examined. In addition to routine laboratory tests, sFGF-23 (human FGF-23 ELISA (Merck Millipore) kit using monoclonal antibodies to the native human FGF-23 molecule), sKlotho (human soluble alpha-Klotho Assay (IBL-Takara)), sScl (human ELISA kit, Biomedica) were measured. Pulse wave velocity (PWV) and central (aortic) blood pressure (by <SphygmoCor>, Australia), cardiac (valvular) calcification score (by Echocardiography, semiquantitative scale), and aortic calcinous score (by abdominal aorta radiography in lateral projection - Kaupilla method) were performed.

RESULTS: In univariate analysis, all the factors of interest (sFGF-23, sKlotho, sScl) and also traditional CKD-related factors (sP, PTH and eGFR itself) as well as general factors (CSBP) were associated with PWV, aortic and valvular calcification. After multivariate analysis, including eGFR, was performed, sKlotho, sFGF-23, sP and CSBP results remained unchanged. The effects of sScl were lost except for the PWV, and the effects of eGFR were lost except for the presence of vascular calcification. PTH was associated only with valvular calcification. After subdividing the cohort by eGFR above or below 45 ml/min/1.73m² the factors most associated with CVC in the former were: CSBP and sKlotho, while in the latter subgroup these main factors were: CSBP, sKlotho, FGF-23 and sP.

CONCLUSIONS: In early CKD stages (eGFR > 45 ml/min/1.73m²), the main independent factors associated with CVC were not only the same for general population such as CSBP, but also sKlotho, while for the subgroup with eGFR < 45 ml/min/1.73m², these main CVC factors were: CSBP, sKlotho, FGF-23 and sP.