Conclusions: The variability of posttransplant weight loss is explained by the number of antihypertensive drugs used prior to transplantation ($\beta$=0.213 (0.049-0.377)) and pretransplant CPP values ($\beta$=-0.233 (0.069-0.397)).

Results: During the posttransplant hospitalization, the average weight change was minus 1.6 kg, varying from 10.5 kg loss to weight gain of 5 kg. The overall weight loss was significantly related to pretransplant serum concentration of CPP (r=0.238), but not of NT-proBNP or osmolality. Patients with the lowest initial CPP level (first tertile) had smaller posttransplant weight loss. The multivariate regression model revealed that the odds ratio of a rapid weight loss was 4.4 (95% CI 95% CI 2.0-9.7) for patients with CPP concentrations < 15.0 pmol/L compared to patients with CPP concentrations ≥ 15.0 pmol/L.

Introduction and Aims: Patients with chronic kidney disease (CKD) have variable risk of death. Risk stratification/prediction tools for the general population have poor performance in this patient group. Better prediction models are needed.

Objective: To assess if the inclusion of new biomarkers (NBM) improves risk prediction of cardiovascular events in the CKD cohort, over and above conventional clinical, demographic and laboratory predictors.

Methods: Pan-Canadian prospective cohort study of 2544 referred CKD patients, from 25 rural, urban, academic and non-academic nephrology centres. NBM tests at baseline included asymmetric dimethylarginine (ADMA), high sensitivity C-reactive protein (hsCRP), interleukin 6 (IL-6), pro-brain natriuretic peptide (NT-proBNP), troponin I, transforming growth factor beta 1 (TGF-b1), cystatin C and fibroblast growth factor (FGF-23). Deaths and cardiovascular outcomes are adjudicated.

Conclusions: Inclusion of NBM in risk prediction models significantly improves precision of cardiovascular outcomes prediction. The NBM-based risk prediction models need to be validated in similar cohorts.

MO303

Newer biomarkers improve prediction of cardiovascular events in CKD patients - CanPReDICT Study outcomes

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Introduction and Aims: The assessment of proper hydration status in hemodialysis patients is difficult. None of the currently available markers or measures is clinically relevant. Recently, a human pre-pro-vasopressin (1-164) split product (copeptin) - a new surrogate marker of hydration status - was introduced. The aim of the study was to analyze body weight changes in the early posttransplant period in relation to plasma copeptin (CPP) levels before kidney transplantation.

Methods: Serum CPP and N-terminal prohormone for brain natriuretic peptide (NT-proBNP) concentrations and osmolality were measured in 130 kidney recipients directly prior to transplantation and, additionally, in 78 of them at the 14th day posttransplant. Hydration status at transplantation was calculated from the difference in patient’s body weight before transplantation and at the discharge.

Results: During the posttransplant hospitalization, the average weight change was minus 1.6 kg, varying from 10.5 kg loss to weight gain of 5 kg. The overall weight loss was significantly related to pretransplant serum concentration of CPP (r=0.213 (0.049-0.377)) and pretransplant CPP values (β=-0.233 (0.069-0.397)).

Conclusions: Elevated serum copeptin level predicts a rapid weight loss after kidney transplantation and seems to characterize the subgroup of patients with greatest overhydration. These results suggest the dysregulation of physiological mechanisms of copeptin secretion in hemodialysis patients.

MO301

Copeptin levels are associated with renal function, renal length and simple cysts

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Introduction and Aims: Arginine vasopressin (AVP) plays a key role in osmoregulation by regulating water transport in the collecting duct. Recent evidence suggests that AVP may also play a role in other aspects of renal function and participate in the diseased kidney, including polyocystic kidney disease. We analyzed the association of copeptin, a reliable surrogate for AVP, with parameters of renal function and morphology in a multi-centric, population-based cohort.

Methods: Participants from families of European ancestry randomly selected in three Swiss cities followed the same standardized protocol. Renal ultrasound was performed to measure renal length and detect cysts. Renal function was assessed through glomerular filtration rate (CrGFR), 24-hour urinary albumin excretion and osmolality. We used multi-level multivariable regression analysis accounting for familial aggregation to explore the association of copeptin with renal function (CrGFR, urinary albumin and osmolality) and morphology (kidney length and cysts).

Results: The 529 women and 482 men had a median copeptin levels of 3.0 and 5.2pmol/L, respectively (p<0.001). The prevalence of simple cysts was 12.1%. In multivariable analyses, copeptin was inversely associated with CrGFR (β coefficient = -2.5 (95% CI -3.9; -1.1); p<0.001) and kidney length (β = -1.2 (95% CI -2.1; -0.4); p<0.005) but positively with 24h albuminuria (β = 0.2 (95% CI 0.1; 0.3); p<0.001) and 24 urinary osmolality (β = 0.08 (95% CI 0.05; 0.1); p<0.001). A positive association was also found with the presence of cysts (Odds ratio 1.6 (95% CI 1.0; 2.5); p=0.036).

Conclusions: In this population-based study, high copeptin levels were associated with smaller kidneys, a higher prevalence of renal cysts, as well as albuminuria and lower renal function. These results suggest that AVP plays a pleiotropic role in renal function and may trigger the formation of simple cysts.
Results: About 50% of the patients were male. The mean±sd age was 45.94±14.09 years. The median eGFR evaluating by creatinine level was 73 [IQR, 35-98] mL/min/1.73 m²; while the median eGFR evaluating by CysC was 82 [IQR, 45-106] mL/min/1.73 m². About 29% of our population belonged to stage G1, 34% to stage G2, 17% to stage G3, 10% to stage G4, and 10% to stage G5, respectively. The median copeptin level was 10.5 (IQR, 5.19-23.83) pmol/L. We found a statistically significant inverse-correlation between copeptin level and eGFR evaluating by Cys C (p<0.001, r=-0.78) and by creatinine ((p<0.001, r=-0.78). Finally, levels of copeptin were significantly different across all CKD stage group (CKD-epi) p<0.001.

Conclusions: Copeptin levels are associated with kidney function in ADPKD patients, in all stage of CKD. Copeptin can be use to evaluate the kidney function in ADPKD patients.