phospholipid levels in Wt WD mice. Phospholipids were visualized using a Nile Red staining and co-localized with vacculated tubuli. Oil Red O Staining showed increased numbers of granules containing neutral lipids in proximal tubuli of wildtype Western diet-fed mice. Unexpectedly, no renal lipid accumulation occurred in Nr3F0a mice fed a Western Diet. A Western diet induced cholesterol accumulation in wildtype mice despite decreased uptake, increased excretion and decreased synthesis based on gene expression analysis.

We propose a novel role for the immune receptor Nr3p in mediating renal cholesterol and phospholipid accumulation during the early development of Metsyn-driven CKD. Further research is conducted to investigate the therapeutic potential of Nr3p in early renal CKD development.

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12 HIGH BODY MASS INDEX (BMI) IS ASSOCIATED WITH ADIPOKINES AND INSULIN RESISTANCE IN NON-DIALYSED CHRONIC KIDNEY DISEASE (CKD) PATIENTS

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The aim of this study was to assess the association between body adiposity with adipokines and with insulin resistance in non-dialysed CKD patients. This is a cross-sectional study including CKD patients under regular treatment in an outpatient clinic. Glomerular filtration rate was estimated by MDRD equation (eGFR). The nutritional status was assessed by BMI, total body fat (BF; dual-energy X-ray absorptiometry), midarm muscle circumference and serum albumin. Laboratory parameters included serum glucose, triglycerides: leptin and insulin (radioimmunoassay); high molecular weight adiponectin (HMWAdipo; ELISA). The insulin resistance was assessed by HOMA-IR. Data are expressed as mean ± SD. One hundred and thirty four CKD patients (male—56%; eGFR = 29 ± 13 ml/min; 65 ± 12 years old) were included. None of the patients presented protein energy wasting and most of them had BMI ≥ 25 kg/m² (overweight/obese group: OwOb) (n = 72; 54%); BMI was correlated with BF (r = 0.74; p < 0.0001). Both BMI groups showed similar eGFR and CKD stages distribution (stage 3:42%; 4: 37%; 5: 21%), hence the comparisons were held between groups with normal and OwOb BMI. The OwOb group had BMI, BF, glucose, triglycerides, leptin and HOMA-IR higher than normal BMI group (P < 0.05), while HMWAdipo was lower in OwOb group (P < 0.05). BMI was significantly associated with leptin (r = 0.58); HOMA-IR (r = 0.36) and HMWAdipo (r = -0.45). HOMA-IR was associated with leptin (r = 0.28) and with HMWAdipo (r = -0.29) (P < 0.01), even after adjusting for BF, eGFR, gender and age.

In conclusion, BMI and BF were associated with increased leptin and HOMA-IR, but with decreased HMWAdipo. The OwOb CKD patients presented higher risk for metabolic and cardiovascular disorders.

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13 INFLAMMATION IS ASSOCIATED WITH EXCESSIVE BODY ADIPOSITY IN NONDIALYSED CHRONIC KIDNEY DISEASE (CKD) PATIENTS

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The purpose of this study was to evaluate inflammation in non-dialysed CKD patients with normal and high body adiposity level. One hundred and thirty four CKD patients (male—56%; age = 65 ± 12 years) under treatment for 3.0 ± 2.0 years were evaluated in a cross-sectional study. Glomerular filtration rate was estimated by MDRD equation (eGFR). The nutritional status was assessed by BMI, total body fat (BF; dual-energy X-ray absorptiometry). Laboratory measurements were: albumin, pro-inflammatory cytokines by Multiplexed analysis: tumor necrosis factor-α, interferon-γ, high sensitive C reactive protein, monocyte chemotactic protein, interleukin 6 and 8, intercellular adhesion molecule-1 and vascular adhesion molecule-1. The inflammation status was defined according to the median values for each studied pro-inflammatory cytokines: negative for inflammation (low < median), positive for inflammation (Infl+ (≥ median). The cytokines were compared between patients with normal BMI (≥ 25 kg/m²) (46%; BMI = 22.2 ± 1.9) and high BMI (≥ 25 kg/m²) (BMI = 28.8 ± 2.8). Both groups showed similar eGFR and CKD stages distribution (stage 3:42%; 4: 37%; 5: 21%). BF and all cytokines were higher in high BMI group than in normal BMI (P < 0.0001). BF and eGFR were correlated (r = 0.74; P < 0.0001). The Infl+ condition was more prevalent, for all cytokines, in the high BMI group (range: 61–76%) than in normal (24–38%). Multivariate logistic regression analysis, for all cytokines, showed that Infl+ condition was associated with high BMI (Odds Ratio range: 2.5–4.2; 95%CI: 1.1 - 9.6; P < 0.01), even after adjusted for age, gender, diabetes and eGFR. In conclusion, CKD patients with high BMI and body adiposity are at higher risk for inflammation. Therefore, the excess of adiposity should be carefully treated in these patients.

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14 SPANISH MULTICENTRIC STUDY ABOUT NUTRITION-INFLAMMATION/HMN WITH MID DILUTION (ENIMID STUDY): PRELIMINARY RESULTS


Introduction and aims: The prevalence of malnutrition are 23-76% of ESRD patients undergoing HD, and 20-50% of them suffers inflammation. Nowadays, the “malnutrition-inflammatory” duo is frequently found in HD patients. The aim of this Spanish multicenter study is to evaluate the effects of the Mid-Dilution HDF on the inflammatory-nutritional state, on some body composition and on the quality of life in the HD patients. The total number of patients expected 64; the preliminary analysis of 52 patient/3 months and 23 after 6months (the study will last 1 year), is presented.

Methods: Patients undergoing standard HD treatment with High Flux dialyzers for 4 hours/three times a week passed to HDF Online MidDilution with OLPUR 220 filters at a reinfusion rate of 121/h. The patients are classified by: age, gender, Charlson comorbidity index, dialysis vintage. The parameters analyzed each 3 months are: urea, β2Mircoglobuline, albumin, pre-albumin, CRP, fibrinogen, IIL, II10, leptin, adiponectin, neutropoeptide Y, body composition by BIVA parameters and apetite and quality life surveys.

RESULTS: Patients classification: • Age: 64.06 ± 0.8 years; • Sex: 64% male; • Charlson index: 3.97 ± 1.66; • HD vintage 54.7 ± 44.8 months.Significant decrease of β2microglobuline pre-dialysis from baseline 26,16 to 20,06 mg/L (p = 0.006) after 3 months and to 17,88mg/L (p = 0.09) after 6 months. xβ2microglobulineRR was 82.45 ± 3.20 % and the URR was 79.56 ± 3.51 %, which demonstrates a good removal of medium and small molecules. The KT/V remained stable (> 1.5); Albumin increased from 3.81 g/dL to 3.87 g/dL in e months and to 3.89 g/dL in the 6 months of evaluation. No significant differences were found in levels of pre-albumin (xbaseline 28 mg/dl).

Corporal and BIVA parameters evaluated: This data shown an improvement of the body composition and water distribution. Significant improvements were seen in the appetite scale in the first 6 months (p = 0.09). The total Quality of Life, evaluated in 3 months by SF36, increased from 55.61 to 50.66 (p = 0.05); the physic from 50.28 to 55.92 (p = 0.09); the mental from 55.69 to 56.01 (p = 0.036); the total quality of life from 55.69 to 60.1 (p = 0.12);Cytokines:we found an increase in neutropeptide Y and II10 and no significant changes in leptin and adiponectin with slight increase of IL6.

CONCLUSIONS: 1-The preliminary results show that MidDilution provides a good removal of small and middle molecules, increases appetite by providing a proper balance of cytokines through stimulation of antiinflammatory ones and neuproteptide Y. 2-H it provides an improvement of body composition. Finally MidDilution improves nutritional parameters which leads to a better quality of life, as well as physical and mental status.

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15 LONGITUDINAL CHANGES IN PHASE ANGLE REFLECT CHANGES IN SERUM IL-6 LEVELS IN MAINTENANCE HEMODIALYSIS PATIENTS

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We hypothesized that longitudinal changes in phase angle (PA) may have independent associations with changes in inflammatory parameters over time and consequently with long-term survival in maintenance hemodialysis (MHD) patients. We aimed to provide evidence on the relationship between phase angle and biochemical markers of nutrition, body composition (anthropometry and bioimpedance analysis) and IL-6 as inflammatory marker, were measured at