152 SHORT-TERM EFFECTS OF DIETARY PROTEIN RESTRICTION ON THE PROGRESSION OF CHRONIC KIDNEY DISEASE IN PATIENTS UNDERGOING CONSERVATIVE TREATMENT
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In chronic kidney disease (CKD) patients undergoing conservative low-protein diets ameliorate uremic symptoms and certain CKD complications and, can slow progression of renal disease. The aim of this study was to determine the short-term effects of protein restriction on the progression of CKD. Twenty-six CKD patients from the Renal Nutrition Ambulatory, Nutrition Faculty, UFF, Niteroi, Brazil (63.1±13.7 years, 13 men, and % body fat for men, 25.0±6.9% and for women, 36.0±3.3%) were analysed. All patients were originally prescribed low-protein diets and energy according to NKF-K/DOQI recommendations. One month later, their body mass index, creatinine, urea and creatinine clearance (calculated by Cockcroft-Gault) were evaluated (Table). The patients reported good adherence diet in clinical records. In spite of the short period of time, the dietary protein restriction during conservative treatment seems slowing the progression of kidney disease.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Before (n = 26)</th>
<th>After (n = 26)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI (kg/m²)</td>
<td>28.6 ± 6.8</td>
<td>28.0 ± 6.9</td>
</tr>
<tr>
<td>Creatinine (mg/dL)</td>
<td>2.1 ± 0.8</td>
<td>2.0 ± 0.9</td>
</tr>
<tr>
<td>CrCl (mL/min)</td>
<td>35.8 ± 15.7</td>
<td>40.9 ± 20.0</td>
</tr>
<tr>
<td>Urea (mg/dL)</td>
<td>85.9 ± 29.4</td>
<td>77.4 ± 32.3</td>
</tr>
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</table>

*p < 0.005

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153 THE IMPORTANCE OF AN EARLY EXERCISE AND NUTRITION INTERVENTION AMONG RENAL TRANSPLANT RECIPIENTS
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Typical long-term inactivity due to the dialysis, necessarily leads to a decline of the recipient’s fitness level. In our study we assessed the impact of regular exercise and nutrition intervention on physical fitness and the quality of life (QoL) in the first year after kidney transplantation (Tx). In total, 46 patients were randomised into 4 subgroups: 1) control (C), 2) early exercise (E+E), 3) early nutrition (E+N), and 4) early exercise + nutrition intervention (E+N). In subgroup E+N, nutrition intervention focused mainly on the joint mobility, muscle strength, nimbleness, dynamic stability, and cardio respiratory endurance (3 times/week; 40 minutes; 20 weeks). Nutrition intervention included substitution with keto-amino-acides. Results were analysed with the non-parametric Wilcoxon and Kruskal-Wallis test. Both physical fitness as well as QoL in the first year after Tx improved in all patients. Statistically significant differences in the dynamics of physical fitness were observed 1.-4. months post Tx in four from six tests (p ≤ 0.01) and 1.-8. months post Tx in five from six tests (p ≤ 0.05). The greatest improvement in physical fitness was achieved by the E+N group followed by N, E and C groups. QoL improved in the groups E+N and N in seven of the eight dimensions, however the results were statistically insignificant. In conclusion, the combination of an exercise and nutrition intervention was the most effective and could give each patient an opportunity to achieve an optimal physical and psychological level almost equal to their original condition.

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154 PHYSICAL AND PSYCHOLOGICAL FUNCTIONS IN PATIENTS WITH THE END-STAGE RENAL DISEASE
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Understanding the physical and psychological status in patients with the end-stage renal disease (ESRD) on renal dialysis treatment (RDT) is a current issue of high importance due to a rising number of elderly patients. The aims of the study in ESRD patients were: 1) to test physical and psychological functions; 2) to propose suitable physical activities. Group of patients: 79/79, age 67.0 ± 12.7 yrs (64.0 ± 13.1 yrs). For testing we used Senior Fitness Test Manual, KDQOL-SF™ questionnaire SF36, WHOQOL-BREF. Importance of quality of life (QoL) - WHOQOL-100. Results were analysed using descriptive statistics and non-parametric Wilcoxon signed-rank test.

In general, both the physical and psychological conditions were severely deteriorated in most components as compared to the non-renal population. Physical fitness was below the normal range of standard values, or to its lower limits, particularly in the tests requiring some degree of muscular strength of the lower limbs and physical efficiency. QoL results showed that in SF36 ESRD patients coincided with the normal range only in the domain of EWB-mental health. The questionnaire WHOQOL-BREF showed that QoL was: significantly lower in ESRD patients than in healthy population only in the domain “physical health”. The most important domains of WHOQOL-100 were the domain of “independence” (the ability to take care of everyday needs - 4.5 and the ability to move - 4.3), “environment” (especially items related to the quality of health care - 4.4). The ESRD patients, especially the elderly, should be encouraged to pay attention to increased physical activity levels in order to maintain functional independence and high quality of the life for as long as possible.

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155 GHRELIN AMELIORATES WASTING, CARDIOVASCULAR COMPLICATIONS, INFLAMMATION AND MORTALITY IN CHRONIC KIDNEY DISEASE
Robert Mak 1, Sujana Gunta 1, Wilson Cheung 1, Nancy Dalton 2, Yusu Gu 2, Erik Alvarez 2, Kirk Peterson 2

1 Department of Pediatrics, Cardiovascular Institute, Department of Medicine, UCSD, San Diego, CA, USA. Wasting, cardiovascular complications and inflammation are known risk factors associated with high mortality in patients with chronic kidney disease (CKD). Ghrelin is an appetite-regulating hormone with additional effects in the modulation of systemic inflammation and the cardiovascular system. CKD patients with low serum ghrelin have high mortality risk and may benefit the most from ghrelin therapy. Aim: to investigate the effects of ghrelin on cachexia, muscle wasting, cardiovascular complications, inflammation and mortality in CKD.

C56BL/6J mice underwent 2-stage 5/6 nephrectomy (CKD) or sham operation (S). Ghrelin (150 nmole/kg/day) or saline was given to CKD or S mice. Over 90-days, mortality rates of 9 month old ghrelin-treated CKD mice (15%) and S mice (0%) were significantly better than those of CKD mice (57.5%). The cumulative food intake of the CKD + ghrelin mice was significantly increased than CKD mice (p < 0.01). CKD + ghrelin mice gained more weight than CKD mice (p < 0.01). CKD + ghrelin mice gained lean body mass and fat mass while CKD mice lost lean and fat mass (p < 0.01). 24 hr metabolic rate was increased and efficiency of food consumption was decreased in CKD mice as compared to S mice (p < 0.001). Ghrelin normalized these abnormalities in CKD mice (p < 0.01).

Ghrelin significantly improved systolic hypertension in CKD mice (p < 0.01). Left ventricular hypertrophy (LVH) was ameliorated in CKD + ghrelin mice as compared to CKD mice (p < 0.01). TNF-α and IL-6 mRNA levels were significantly increased in gastrocnemius and cardiac muscles of CKD mice and ghrelin significantly decreased the expression of these inflammatory cytokines in CKD mice (p < 0.01).

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