

### 279 NUTRITIONAL STATUS AS ASSESSED BY BIOIMPEDANCE SPECTROSCOPY IN HYPOKALEMIC VERSUS NORMOKALEMIC CAPD PATIENTS.

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Hypokalemia is a significant problem in CAPD patients. The impact of hypokalemia on treatment outcome was not known. The study objective was to compare the nutritional status as measured by Multifrequency bioimpedance spectroscopy (BIS) and quality of life between peritoneal dialysis patients who has hypokalemia and normokalemia. There were 8 hypokalemic and 18 normokalemic PD patients in this study. BIS were measured by BCM-body composition monitor (Fresenius medical care) device, quality of life was measured by WHOQOL-BREF questionnaire. Levene's Test was used for comparison and  $p < 0.05$  was considered as statistically significant. There was no difference in the co-morbidity, dialysis adequacy, blood pressure and food intake between groups. The quality of life between groups was not statistically difference. BIS showed comparable lean tissue index (LTI), fat tissue index (FTI), urea distribution volume and ECW/ICF water ratio. Patients in the normokalemic group had a non-significant higher percent OH/ECW than hypokalemic group.

Parameters	Hypokalemic	Normokalemic	p-value
Charlson's comorbidity index	8.25 +/-2.05	9.06 +/-2.54	0.442
Weekly Kt/V	2.06 +/-0.35	1.94 +/-0.41	0.525
LTI (kg/m <sup>2</sup> )	11.31 +/-5.34	12.51 +/-2.68	0.449
FTI (kg/m <sup>2</sup> )	11.95 +/-7.92	10.51 +/-4.70	0.567
Urea distribution (L)	28.30 +/-8.63	29.64 +/-4.92	0.618
ECW/ICW	1.04 +/-0.34	1.03 +/-0.12	0.909
OH/ECW (%)	13.19 +/-13.88	17.71 +/-10.04	0.363

In conclusion, nutritional status and quality of life were not statistically different between CAPD patients who had hypokalemia or normokalemia.

<http://dx.doi.org/10.1016/j.krcp.2012.04.603>

### 280 FAVORED SERUM ALBUMIN LEVEL AND ICF VOLUME AFTER USE OF 1.1% AMINOACID BASED PERITONEAL DIALYSIS(PD) SOLUTION

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Aminoacid based PD solution (AAD) has been shown to induce positive nitrogen balance and improve nutritional markers of malnourished patients. But its effects on body fluid composition and various nutritional markers are contradictory. Nutritional markers may influenced by patient's ECF volume status. So we evaluate effects of AAD on nutritional markers and body composition by analysis using multi-frequency bioimpedance analyzer. 35 PD patients (> 6months duration of CAPD) were prospectively randomized to 17 AAD(Nutrineal, one time use/day) and 18 GD group(keep their glucose based PD solution). After 3 months follow up, AAD group showed marginally increased body weight and fat mass, decreased ECF volume(12.45 ± 0.54L vs 12.10 ± 0.57L,  $p=0.06$ ), no changed ICF volume(22.2 ± 0.9L vs 22.3 ± 0.9L,  $p > 0.05$ ) and marginally increased drainage volume(8.77 ± 0.76L vs 9.12 ± 0.83L,  $p=0.09$ ). AAD group also showed favored several markers include nPCR(1.59 ± 0.07 vs 1.98 ± 0.08,  $p=0.00$ ), BUN and albumin level (3.54 ± 0.11 vs 3.74 ± 0.11,  $p=0.02$ ). Although serum albumin level was increased, correction with ECF volume(albumin level X ECF volume) makes it no difference (43.45 ± 2.13 vs 44.80 ± 2.28,  $p=0.14$ ). Furthermore  $\Delta$  albumin vs  $\Delta$  ECF showed negative correlation pattern( $r=-0.46$ ,  $p=0.07$ ) that means serum albumin change was influenced by ECF volume change. In conclusion, AAD treatment improved markers of better nutritional status. However the change in serum albumin level was influenced by patient's ECF volume status, which can partially explain contradictory effect of aminoacid based PD solution on serum albumin level.

<http://dx.doi.org/10.1016/j.krcp.2012.04.604>

### 281 RESOLUTION OF SYMPTOMATIC IMMOBILIZATION HYPERCALCEMIA (IH) AFTER REHABILITATION EXERCISES IN A HEMODIALYSIS PATIENT

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The patient is a 76-year-old Korean female who had been thrice-weekly hemodialysis for 3 months for ESRD attributable to diabetic nephropathy. She presented to emergency room with decreased mentality. Before admission, she had been bed-ridden status for 4 months due to poor general condition. Brain CT and MRI showed negative findings. Serum calcium was 15.6 mg/dl, ionized calcium 2.12 mmol/L, hypercalciuria (FE<sub>Ca</sub> 26.2%), and low serum levels of iPTH (42.92 pg/ml) suggested non-parathyroidal hypercalcemia. Two weeks ago, her serum calcium and phosphate level was 9.0 and 6.1 mg/dl, respectively and she was receiving calcium acetate. An extensive workup failed to identify any etiology of hypercalcemia. Hypercalcemia was temporarily ameliorated after withdrawal calcium-containing phosphate binder and daily hemodialysis with low calcium (Ca<sup>++</sup> 1.25 mmol/L) dialysate but recurred one week later. Serum calcium level was increased and reached to 12.2–13.5 mg/dl. Immobilization hypercalcemia was considered after the exclusion of other discernible causes. We decided to try rehabilitation exercises. Two weeks after passive range of motion (ROM) exercise of joints and tilting table standing, serum calcium level was decreased to below 10.5 mg/dl.

<http://dx.doi.org/10.1016/j.krcp.2012.04.605>

### 282 IMPACTS ON PROTEIN INTAKE IN PERITONEAL DIALYSIS PATIENTS

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The purpose of this study is to identify barriers related to achieving an adequate protein intake, and predictors of protein-energy wasting (PEW) in Peritoneal Dialysis (PD) patients.

This is a prospective observational study of prevalent patients receiving PD in our facility. Data collection occurs at baseline and six months, including renal-related morbidity, biochemistry, weight, nutritional status (Subjective Global Assessment (SGA) and PEW criteria), energy and protein intake (via diet history), social situation and support, appetite and quality of life (EQ-5D). The following is a preliminary analysis of baseline characteristics, using chi-square, Fisher's exact test and t-test, against protein intake less than or greater than the recommended 1.2 g/kg adjusted body weight (ABW).

To date, 43 patients have been recruited, 56% ( $n=24$ ) are male, with mean (SD) age 61 (12.3) years and BMI 28.5 (7.3) kg/m<sup>2</sup>. Of these, 16% ( $n=7$ ) were assessed as malnourished (SGA B or C) and 93% ( $n=40$ ) met one or more PEW criteria. Sixty percent ( $n=26$ ) failed to meet minimum protein requirements 1.2 g protein/kg ABW (mean 1.08 (0.3) g protein/kg ABW). Inadequate protein intake was related to reliance on social security ( $p=0.05$ ), having a diminished appetite ( $p=0.05$ ) and lower reported quality of life (health utility index) ( $p=0.03$ ). PEW was related to decreased mobility ( $p=0.05$ ), difficulties with self care ( $p=0.001$ ) and presence of pain/discomfort ( $p=0.01$ ).

In conclusion, inadequate protein intake was present in a significant portion of the population. Barriers to adequate intake in this population can include low income and appetite levels, which may concomitantly impact on quality of life. Further work on recruiting participants and longitudinal follow-up is currently underway to elucidate the impact of this on patient outcomes.

<http://dx.doi.org/10.1016/j.krcp.2012.04.606>

### 283 EFFECT OF HIGH SALT ON RENAL NKCC2 IN CYP4F2 TRANSGENIC MICE

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Cytochrome P450 4F2 (CYP4F2) catalyzes the  $\omega$ -hydroxylation of arachidonic acid (AA) to 20-HETE. We previously generated a CYP4F2 transgenic (TG) mouse model, and demonstrated that overexpressed CYP4F2 elevates 20-HETE production and blood pressure in the TG mice, indicating 20-HETE plays a