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CHANGES IN THE POTASSIUM CONTENT OF DIFFERENT POTATO VARIETIES AFTER COOKING Jerrilynn D. Burrowes and Nicholas J. Ramer, C.W. Post Campus of Long Island University, Brookville, NY, USA

This study determined analytically the potassium (K^+) content of different varieties of raw potatoes and estimated the amount of K^+ that can be extracted or leached from the raw potatoes by cooking.

Six different varieties of fresh potatoes (Idaho, Red Bliss, Yukon Gold, Purple Viking, White Rose and Russian Banana Fingerling) were obtained from Whole Foods Market in Manhasset, NY. Two different cooking methods (normal cooking [NC] and double cooking [DC]) were applied to each potato. K^+ was extracted from the ash of the dried samples. The K^+ content of aqueous extractions was determined through atomic absorption spectrophotometry. Triplicate samples of each potato were obtained and the results averaged. A detailed description of the methods and procedures has been described elsewhere.¹

Mean K^+ content was highest in the Purple Viking potato (448.1 ± 60.5 mg) and lowest in the Idaho potato (295 ± 15.7 mg). All of the raw potatoes had mean K^+ content of about ≥ 300 mg/100gm. With the exception of the Idaho potato, the DC method resulted in more leached K^+ from the raw potatoes than the NC method. Most of the potatoes retained a mean K^+ content >200 mg/100gm following the NC vs. the DC method (67% vs. 34%, respectively).

The K^+ content of the raw potatoes studied varied considerably, with most tubers retaining a moderate amount of K^+ after leaching. This study showed that the DC method appears to be more effective than the NC method in leaching K^+ from the potatoes studied. The findings from this study provide useful information for dietitians involved in menu planning for people on K^+ -restricted diets.

¹Burrowes JD and Ramer NJ. Removal of potassium from tuberous root vegetables by leaching. *J Renal Nutr* 16:304-11, 2006.

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PLASMA B 6 VITAMERS IN HEMODIALYSIS SUBJECTS TAKING PRESCRIPTION OR OVER-THE-COUNTER RENAL MULTIVITAMIN SUPPLEMENTS Clement Louise, Boylan Mallory, Miller Virginia, Driskell Judy, and Giraud David, South Plains Kidney Disease Center; Texas Tech University and Texas Tech University Health Sciences Center, Lubbock, TX, and University of Nebraska, Lincoln, NE, USA

Prescription and over-the-counter (OTC) multivitamin supplements are available for hemodialysis (HD) patients. The content of pyridoxine hydrochloride (PN-HCL) in these products ranges from 10 to 50 mg per tablet. Vitamin B-6 is an essential nutrient but it also has the potential at high doses to cause detrimental effects to the nervous system. The purpose of this study was to evaluate the B-6 vitamers in the plasma of hemodialysis subjects who had been taking either prescription or OTC vitamins, and to determine if subjects were experiencing any signs or symptoms associated with vitamin B-6 toxicity.

Subjects on HD were grouped by vitamin B-6 intake ($n=12$ /group; 10 or 50 mg PN-HCL per day 5-7 days per week for 6+ months). Plasma B-6 vitamers were analyzed using HPLC. Subjects were questioned regarding signs and symptoms of vitamin B-6 toxicity. Cluster analysis was used to sort subjects into 3 groups by symptoms.

The mean \pm SD plasma B-6 vitamers (nmol/L) were as follows in the 10 and 50 mg PN-HCL groups respectively: pyridoxal-5'-phosphate (PLP) 106 ± 53 and 163 ± 78 (significantly different $p<0.04$); pyridoxal (PL) 507 ± 396 and 683 ± 306 ; pyridoxine (PN) 265 ± 150 and 191 ± 107 ; and 4-pyridoxic acid (4-PA) 433 ± 264 and 994 ± 1361 . Mean serum zinc, phosphorus, and alkaline phosphatase values of the groups were not significantly different. The cluster group with a significantly lower mean PLP value of 72 ± 25 nmol/L reported more tingling feet, muscle weakness and pain, balance problems, and itching than did the 2 groups with higher mean plasma PLP values (149 ± 101 and 142 ± 52 nmol/L). The cluster group with a significantly higher mean plasma PA value of 1678 ± 1697 nmol/L reported more tingling hands, tachycardia, and diarrhea. In conclusion, plasma PLP levels in HD subjects are impacted by dose of PN-HCL in supplements, but a higher incidence of neurologically related symptoms are associated with lower plasma PLP or higher plasma PA levels.

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BEHAVIORAL MODELING TO GUIDE PATIENT'S ADHERENCE TO FLUID CONTROL Sana Ghaddar, Wael Shamseddine, and Hafez Elzein, American University of Beirut, Beirut – Lebanon

We used the Health Behavioral Model (HBM) and the Transtheoretical Model (TTM) to assess patients' readiness to comply with recommended fluid and sodium intake.

This was a cross sectional study that examined 172 eligible hemodialysis (HD) patients dialyzing at 3 HD units in Lebanon. The TTM questionnaire was used to place patients into stages based on their compliance with fluid restriction instructions and the levels of intradialytic water gain (IDWG) they exhibited in the last 4 weeks. The HBM questionnaire was used to assess patients' perceptions of the barriers, benefits, seriousness, susceptibility, and self-efficacy in readiness to change their behavior. Univariate analyses were conducted to summarize the demographic, clinical and behavioral characteristics of study participants. Multivariate statistics (ANOVA, MANOVA, and post hoc LSD analysis) were used to examine the interface between constructs of HBM with TTM stages of change.

The study sample included 93 (53.8%) males, average age was 57.8 ± 14.0 (range: 23-86) and average dialysis years were 4.6 ± 4.9 (range: 0-32). The distribution of participants across the TTM stages was: 18.5% in the precontemplation, 40% in the contemplation, 38.1% in the preparation, and 3.4% in the action/maintenance stage. The HBM constructs were overall significantly associated with the TTM stages as demonstrated by MANOVA ($p < .01$). Significant differences across TTM stages were found on the perception of benefits ($p = .04$) and self-efficacy ($p < .01$). Patients in the precontemplation stage had significantly lower scores on perception of benefits compared to those in action/maintenance stage ($p = .01$), and on the perception of self-efficacy compared to those in the contemplation, preparation, and action/maintenance stages ($p < .01$).

Educational programs for patients should focus on increasing patient's perception of the benefits (reduced complications and need for medication) and barriers (difficulty of adherence to recommended diet or economic barriers to obtain or prepare food items) to induce patient's behavioural movement into the higher TTM stages.

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COMPARISON OF HEMODIALYSIS PATIENT OUTCOMES FOLLOWING TREATMENT WITH PARICALCITOL ALONE OR IN COMBINATION WITH CINACALCET Maria Karalis, Nana Wiafe, and Dennis Andress, Abbott Laboratories, Abbott Park, IL, USA

Vitamin D deficiency and elevated calcium levels that occur during chronic kidney disease (CKD) contribute to elevated levels of parathyroid hormone (PTH) and development of secondary hyperparathyroidism (SHPT), which contributes significantly to morbidity and mortality in CKD patients. Several vitamin D receptor activators have been developed to treat patients with SHPT including paricalcitol, which successfully regulates PTH levels in these patients and maintains appropriate Ca and P levels. Elevated Ca and P levels can lead to further complications including vascular calcification. Calcimimetic agents have been developed to treat patients as calcium levels rise during the progression of SHPT. In this multicenter, retrospective study we have compared the percent of patients that reach NKF K/DOQI targets for iPTH, Ca, and P following treatment with either paricalcitol alone (Z only) or with paricalcitol in combination with cinacalcet (Z+S). We found that a higher percentage of patients reached the iPTH goal range of 100-300 pg/ml with paricalcitol alone (38%) than those who were treated with both paricalcitol and cinacalcet together (25%). Moreover, the percent of patients on Z alone, reaching Ca range of 8.4-9.5 mg/dL and P range of 3.5-5.5 mg/dL, was 52% and 48% respectively, compared to Z+S, 46% for Ca and 39% for P. Thus, patients treated with paricalcitol alone had better outcomes than those treated with both drugs. This could be related to the utilization of protocols that optimize the dose of paricalcitol first before adding other agents. In light of the tremendous pill burden of HD patients, these data suggest that protocols used to treat SHPT with cinacalcet, prior to optimizing dose of VDRA therapy, need to be reevaluated.