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URIC ACID IS ASSOCIATED WITH NUTRITIONAL STATUS IN MAINTENANCE HEMODIALYSIS PATIENTS

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Purines, mainly contained in meats, are metabolized finally to uric acid in humans. Although digestion of meat is impaired in end-stage renal disease patients on hemodialysis owing to anorexia and decreased taste, hyperuricemia is common in these patients. In this cross-sectional study, we analyzed demographic characteristics, normalized protein nitrogen appearance (nPNA), serum albumin concentration, and serum uric acid levels and other laboratory parameters in sixty patients on maintenance hemodialysis. There were 33 (55%) males and 27 (45%) females. The mean age was 62.9 $\pm$ 14.3 years and the mean body mass index was 22.7 $\pm$ 3.8 kg/m^2. The mean serum uric acid level was 7.2 $\pm$ 1.2 mg/dL, with the range of 5.1–10.8 mg/dL. There was a statistically significant correlation between serum uric level and nPNA ($p < 0.05$). The serum uric acid level was also positively correlated with blood urea nitrogen level ($p < 0.01$) and serum phosphorus level ($p < 0.05$). Our results suggest that serum uric acid level is associated with nutritional status, and might be a possible marker for protein nutrition in maintenance hemodialysis patients.

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THE EFFECTS OF HOME EXERCISE ON INSULIN RESISTANT IN CHRONIC KIDNEY DISEASE PATIENTS

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Insulin resistance appears at an earlier stage of chronic kidney disease (CKD) and closely correlates with atherosclerosis and cardiovascular mortality. Exercise training may improve hyperinsulinemia in patients with chronic disease, but it has proven difficult to motivate many such patients to undergo exercise training chronically. We aimed to demonstrate the effect of regular home rubber band exercise on insulin resistant in patients with CKD stage 3-5.The randomized controlled trial was conducted in CKD clinic at Phramongkutklao hospital, Bangkok, Thailand, during June to December 2010. The eligible CKD stage 3-5 participants were asked to randomly assigned to do only home gentle exercise (control) or plus home resistance exercise by using rubber band (treatment) for 12 weeks. The exercise training was supervised and strictly monitored by sport scientist every four weeks. Fasting plasma glucose and insulin concentrations was performed to calculate homeostasis model assessment (HOMA). There were 21 patients in the control group (mean age 66.05 $\pm$ 13.72 years) and 24 patients in the treatment group (mean age 66.05 $\pm$ 13.72 years) . At the end of study, the fasting plasma glucose (-0.76 $\pm$ 1.84 mmol/L) and HOMA-IR (-1.09 $\pm$ 2.43) decreased significantly in the treatment group, whereas the fasting plasma glucose (0.49 $\pm$ 1.65 mmol/L) and HOMA-IR (0.38 $\pm$ 2.12) slightly increase significantly in the control group. In addition, there were significant different of HOMA-IR between the control group and the treatment group (1.9 $\pm$ 1.85 vs 3.72 $\pm$ 3.26, P= 0.031, respectively). Moreover, all patients in the treatment group did not have serious side effect from resistance exercise, but only five patients had muscle cramp. In conclusion, regular home exercise ameliorate insulin resistance without any serious adverse effects in the CKD population.

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DIFFENRECES IN MIA RELATED FACTORS BETWEEN HYPERGLYCEMIC AND NORMOGLYCEMIC DIALYSIS PATIENTS

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It is generally accepted that diabetic dialysis patients have nutritional problems more frequently than non-diabetic patients, which has a close relation to the shortness of their lifetime. We compared the MIA related factors between hyperglycemic and normoglycemic dialysis patients with diabetes.110 diabetic dialysis patients were enrolled in this study and they were divided into the next 2 groups; the hyperglycemic group as GA greater than or equal to 23%, and the normoglycemic group as GA less than 23%. Nutritional status was evaluated by MIS sheet originally established by Kalantar- Zadeh. Nutritional statuses were categorized as Normal, mild malnourished and moderately/severely malnourished based on the total point of MIS. In the normoglycemic group age, dialysis vintage and serum level of CRP were significantly increased as a nutritional category became worsened. On the other hand in the hyperglycemic group there were no significant differences in MIA related factors among the nutritional categories. Various specific issues which might worsen the nutritional status of hyperglycemic dialysis patients were identified. In the normoglycemic patients malnutrition might has progressed in the similar manner of MIA progression observed in non-diabetic dialysis patients. However, in the hyperglycemic patients malnutrition might has progressed by other specific issues and or hyperglycemia itself. The Patients with severe hyperglycemia cannot live long enough to develop MIA syndrome.

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PROTEIN NENRGY WASTING (PEW) IS SUBCLINICALLY PROGRESSIVE IN CHORONIC DIALYSIS PATIENTS

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Protein energy wasting (PEW) is the most important problem on chronic dialysis patients because it is closely related to the shortness of their lifetime. However, there have been few reports that clarified the body composition changes in chronic hemodialysis patients.We retrospectively analyzed the changes in body composition evaluated by the bioelectrical impedance analysis for 2 years on 188 chronic hemodialysis patients whose dialysis vintage was more than 2 years. The patients were divided into the next 2 groups; the Group A, 108 patients with BW loss less than 2 %, Group B, 80 patients with BW loss greater than or equal to 2 %. The valuables which could estimate the progression of BW loss were determined using the Chi-square test by the comparison of the Group A and B.In all subjects the mean post-dialysis BW was significantly reduced from 57.3 Kg to 56.6 Kg and the LBM was also reduced from 43.1 Kg to 42.6Kg, but the fat volume didn't change. In the Group A the LBM didn't change but the fat volume significantly increased. In the Group B both the LBM and the fat volume were significantly reduced. Age was significantly higher and nPCR was lower in the Group B than A. In our facilities 42.5% of the patients reduced their BW but the difference was very small as -1.2 % from the basal level. The results of this study suggest PEW might subclinical progressive even if the patients can keep their BW as changing their muscle to fat on chronic hemodialysis patients. Higher age and lower protein intake are the risk of PEW so we should promote the proper intake of protein and energy especially for elder dialysis patients.

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ORAL IRON ADMINISTRATION IS BENEFICAL FOR ANEMIA WITH SMALLER MEAN CORPUSCULAR VOLUME (MCV) IN HEMODIALYSIS PATIENTS WITH LOW HEPCIDIN-25 LEVELS

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Oral iron administration (OIA) is little benefit, and I.V. iron injection (IVI) is recommended. IVI increases high serum ferritin (ferr) levels, increaseing serum hepcidin-25(hepc) levels, which inhibits intestinal iron absorption.