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The eldery constituted the fast growing segment of the end-stage renal disease (ESRD) population. However, the information about the elderly patients on hemodilaysis therapy is limited. We investigated outcomes and the prognostic factors for elderly patients who initiated hemodialysis.

We reviewed medical recodes and conducted survival analysis in elderly patients over than 75 years when they had started hemodialysis in single center between 1988 and 2010. We analyzed the survival time of elderly hemodialysis patients with Korean national health insurance data system.

Sixty hundred and sixty eight patients initated hemodialysis from 1988 and sixty five patients among them were over than 75 years. Their median survival from initiation of hemodialysis was 29.02 (13.31-49.51) months. The survival in patients whose HbA1c level was higher than 7.0% was lower than in their counterpart (32.85 Vs 13.31 months; P=0.0014).The patients with AVBG and AVF showed much better survival compared to catheter (36.75, 32.46 Vs 3.26 months; P=0.0016). The patients over than 80 years were 43% and their survival was much lower than the patients younger than 80 years (16.00 Vs 36.75 months ; P=0.0107). Cox regression analysis showed the HbA1C $>$ 7.0% is independent prognostic factor. (HR=4.66 (1.79-12.16), p=0.002). In conclusion, Diabeus mellitus *per se* was not a risk factor for mortality in this group. However untrolled diabetes mellitus is independent prognostic factor for elderly ESRD patients.

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125
CALCIUM REQUIREMENT AFTER PARATHYROIDECTOMY (PTX) IN SECONDARY HYPERPARATHYROIDISM (2° HPT)

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After PTX in 2°HPT, appropriate calcium and calcitriol was supplied to prevent hungry bone syndrome. Duration of admission was variable according to multiple causes. We hypothesized the admission duration was mainly affected by calcium requirement. The aims of this study were to evaluate PTX in 2°HPT in single center and to make equation for calcium requirement. We evaluated 91 patients with 94 PTX from Nov. 2003 to Dec.2011 in Korea Univ. Guro Hospital. We retrieved demographic details including sex, age, body weight, DM, hypertension, mode of renal replacement therapy, duration of dialysis, duration of admission, mode of PTX, method of anesthetics, number of glands removed, the largest gland length, the heaviest gland, and histologic profile of removed gland. We also gathered preoperative and postoperative (12 hrs and 48 hrs after PTX, discharge, 3 mo, 6 mo, 1 yr after PTX) laboratory data such as calcium, phosphorus, iPTH, ALP, albumin, and Hb. We summated oral and intravenous calcium supplement during hospitalization after PTX. We prescribed oral calcitriol 2.0 μg/day after PTX. Statistical analysis was performed with SPSS ver. 12.0.1. We could find log(calcium total supplement during admission) is correlated with preoperative ALP (p=0.000), preoperative iPTH (p+0.037), and Δ phosphorus 48 hrs after PTX (p=0.000) by multiple linear regression. Log (calcium total supplement during admission) = 2.576 + 0.001 X preoperative ALP + 3.575 X 10-5 X preoperative iPTH + 0.06 X Δphosphorus 48 hrs after PTX. We believe this equation would be helpful to estimate calcium requirements after 48 hrs PTX and to give a clue about length of hospitalization. We also would evaluate whether this equation is predictable in our patients in the future.

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126
INTRADIALYTIC ORAL NUTRITIONAL SUPPLEMENTS AND SURVIVAL IN MAINTENANCE HEMODIALYSIS PATIENTS

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Use of intradialytic oral nutritional supplements (ONS) improve nutritional biomarkers but an association with survival has not been proven. We evaluated mortality, comparing patients with serum albumin $\leq$3.5 g/dL who received monitored ONS (at no patient cost) during chronic outpatient hemodialysis (HD) as part of a standardized national program in Fresenius Medical Care, North America facilities, with eligible patients who did not receive ONS (controls). Participation was promoted but not mandatory. Study enrolment covered Q42009 and followup was until 12/31/10. Patients who received ONS outside of the program or started during 2010 were excluded. Two protein bars and two liquid formulations of ONS options were offered, which were available until albumin was $\geq$ 4.0 g/dL.

Crude mortality in the ONS group (N= 7,264) was 29.4% vs. 36.6% for controls (N= 13,853), p $<$ 0.001. Compared to controls, the unadjusted mortality hazard ratio for ONS was 0.70 (0.67, 0.74) and after adjustment for baseline casemix and 5 quality indicators was 0.68 (0.64, 0.71). Although limited by the observational design, these results indicate favorable survival associated with ONS use in malnourished chronic HD patients with albumin $\leq$3.5 g/dL.

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127
HOSPITALIZATION IS LESS IN MALNOURISHED PATIENTS GIVEN INTRADIALYTIC ORAL NUTRITIONAL SUPPLEMENTS

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Use of intradialytic oral nutritional supplements (ONS) improve nutritional biomarkers but an association with hospitalization risk is unexplored. We evaluated hospitalization events from all causes (HOS), comparing patients with serum albumin $\leq$3.5 g/dL who received monitored ONS (at no patient cost) during chronic outpatient hemodialysis (HD) as part of a standardized national program in Fresenius Medical Care, North America facilities, with eligible patients who did not receive ONS (controls). Study enrolment covered Q42009 and followup was until 12/31/10. Patients who received ONS outside of the program or started during 2010 were excluded. Two protein bars and two liquid formulations of ONS options were offered – – which were available until albumin was $\geq$ 4.0 g/dL.

Overall, HOS was lower in the ONS group (N= 7,264) at 2.5 vs. 2.7 episodes/ptyear for controls (N= 13,853), p $<$ 0.001. The unadjusted time to 1st HOS hazard ratio for ONS was 0.92 (0.88, 0.95) and after adjustment for baseline casemix, HOS 30days prior to study entry, and 5 HD quality indicators was 0.93 (0.90, 0.96). Although limited by the observational design, these results indicate lower HOS associated with ONS use in malnourished chronic HD patients with albumin $\leq$3.5 g/dL.

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128
PREBIOTICS IMPROVE METABOLIC PARAMETER IN UREMIC MICE BY REDUCING INTESTINAL PRODUCTION OF P-CRESYL SULFATE

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Chronic kidney disease (CKD) is associated with a large range of metabolic alterations. P-cresyl sulfate (PCS) has been identified as one of the main uremic toxins involved in the pathogenesis of accelerated atherosclerosis in CKD. The prebiotic soluble fibers have the property of selectively stimulate growth and activity of a limited number of beneficial bacteria in the colon. The aim of this study is to assess in mice the effects of prebiotics by the reduction of PCS intestinal production, on metabolic disturbances associated with CKD.

Subtotally nephrectomized C57BL/6J wild-type mice were divided into two groups: CKD mice and CKD mice fed with 5% (w/w standard diet) of prebiotic arabinoxylane oligosaccharides (AXOS, WITAXOS SA,). Three weeks after initiation of prebiotics serum cholesterol total, triglycerides, glucose, PCS were measured. The insulin sensitivity was estimated by intra-peritoneal insulin tolerance test and glucose tolerance test.

CKD mice treated with AXOS exhibited a significant decrease in serum total PCS ($-$74%, p=0.03). Prebiotic treatment reduced the loss of fat mass observed in CKD ($+$33%, $p < 0.05$). and prevented the ectopic lipid redistribution associated with CKD. Prebiotic treatment completely prevented the expected increase in glycemia, total cholesterol and triglycerides associated with CKD. Insulin sensitivity was significantly improved in prebiotic group.

These results suggest that prebiotics AXOS decrease PCS and prevented CKD-induced insulin resistance, the loss of adipose tissue and prevented accumulation of ectopic lipids in muscle and liver.. Because insulin resistance is an important cardiovascular risk factor, novel therapeutic approaches like prebiotics which could decrease PCS and cardio vascular mortality.

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