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LOW BMI IS THE RISK OF CARDIO-VASCULAR MORTALITY WITHOUT PROGRESSION OF CKD

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The paradoxical risk of BMI on mortality is known in CKD as well in dialysis populations, but studies of CVD risk in CKD including underweight is limited. We hypothesized lean CKD increase the CVD risk, contributing different factors from obese. 2,676 CKD patients recruited from 11 outpatients' hospitals. BMI and estimated GFR (eGFR) were calculated, and change of eGFR and CVD mortality during 2 years were collected. Patients were divided by BMI under cut off value of normal, thus 7% grouped in lean subjects (BMI <18.5). Systolic blood pressure (sBP), albumin, hemoglobin, age and prevalence of diabetes were lower in lean BMI group compared to other subjects. However CVD history, urinary protein, baseline eGFR and smoking didn't differ between the groups. The lean BMI increased significantly the risk of CVD mortality, in spite of low prevalence of comorbidities and young age in unadjusted model (HR 2.38, 95%CI 1.49-5.21, $p<0.01$). This significance remained after adjusted for CVD risk factors, such as primary disease of CKD, age, sex, smoking, albumin, cholesterol, sBP and eGFR. On the other hand, BMI was not associated with the decline rate of eGFR. We concluded that BMI less than 18.5 was an independent predictor of CVD, and that BMI did not effect on CKD progression rate in Japanese CKD.

http://dx.doi.org/10.1016/j.krcp.2012.04.597

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SURVIVAL AND RISK FACTORS ASSOCIATED WITH MORTALITY IN DIABETIC PATIENTS ON CONTINUOUS AMBULATORY PERITONEAL DIALYSIS IN SOUTHERN CHINA

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This study aimed to analyze the survival and the risk factors associated with mortality in diabetic CAPD patients in Southern China. This single-center prospective cohort study enrolled all incident CAPD patients from Jan 2006 to Dec 2009 and followed-up until Dec 2011.Survival in diabetic and non-diabetic CAPD patients and the risk factors on mortality in the diabetic CAPD subjects were evaluated. Among 841 incident CAPD subjects in this study, 193 patients (22.9%) were diabetes. The mean vintage of CAPD was 29.4 ± 15.5 months. Shorter patient survival time was found in diabetic patients compared to that of non-diabetic ones ($p<0.01$). The 1-, 3- and 5-year patient survival rates were 90%, 64% and 40% in diabetes and 95%, 88% and 75% in non-diabetes, respectively ($p<0.01$). There was no significant difference in the death-censored technique survival time between diabetic and non-diabetic patients. The 1-, 3- and 5-year technique survival rates were 96%, 88% and 86% in diabetic, while 99%, 93% and 87% in non-diabetic patients, respectively. Diabetic CAPD patients that died during the follow-up period had older age(63.4 ± 10.5 *vs.*58.6 ± 10.4 yrs, $p<0.01$), higher proportion of cardiovascular diseases (CVD)(64.9% *vs.* 47.1%, $p<0.05$), higher level of hsCRP [5.1(1.5～11.7) *vs.* 1.8 (0.8～7.2)] mg/L, $p<0.01$), but lower levels of haemoglobin (95.5 ± 20.2 *vs.* 103.4 ± 19.2g/L, $p<0.01$), serum albumin (33.7 ± 4.0 *vs.*35.3 ± 4.9g/L, $p<0.05$) and 24h urine output [600(300～813) *vs.* 800(500～1100]ml/d, $p<0.01$) compared to the survivors. The presence of CVD, advanced age, higher glycosylated haemoglobin, lower hemoglobin and serum albumin at the initiation of PD were independent predictors of death in diabetic patients.It was concluded that survival of diabetic CAPD patients is not as good as that of non-diabetic patients in Southern Chinese patients, but better than those reported by other previous studies. Better management of modifiable risk factors such as hyperglycaemia, anemia and hypoalbuminemia may improve outcomes of diabetic PD patients.

http://dx.doi.org/10.1016/j.krcp.2012.04.598

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SAFETY AND EFFICACY OF ROSUVASTATIN FOR HYPERLIPIDEMIA IN PATIENTS WITH CHRONIC KIDNEY DISEASE (CKD) STAGE 3 AND ABOVE

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The frequency of hypertriglyceridemia is high in CKD patients, but few medications are available for controlling this lipid parameter when renal insufficiency advances. We evaluated the safety and efficacy of long-term treatment with rosuvastatin, one of the strong statins for hypercholesterolemic control, on lipid abnormalities in patients with CKD stage 3 and above. The protocol consisted of a 4-week run-in period and a 48-week treatment phase with rosuvastatin. Inclusion criteria were CKD stage 3 and above with serum low-density lipoprotein (LDL) cholesterol levels above 100 mg/dL and triglyceride levels above 150 mg/dL. Patients received 2.5 to 5.0 mg rosuvastatin daily. Lipid parameters and myolysis-related indicators were measured. Forty-nine patients (29 men and 20 women aged 61 $\pm$ 9 years, serum creatinine levels above 1.5 mg/dL) were enrolled in the study. Rosuvastatin significantly decreased ($P<0.05$) serum LDL cholesterol from 163 $\pm$ 39 to 126 $\pm$ 31 mg/dL and apolipoprotein B from 151 $\pm$ 36 to 108 $\pm$ 24 mg/dL at 4 weeks and maintained these parameters at low levels. Rosuvastatin also significantly decreased ($P = 0.001$) serum triglyceride levels from 194 $\pm$ 43 mg/dL at baseline to 160 $\pm$ 51 mg/dL at 48 weeks. High-density lipoprotein (HDL) cholesterol concentrations did not change from baseline (56 $\pm$ 16 mg/dL) to 48 weeks of treatment (57 $\pm$ 17 mg/dL). However, LDL/HDL ratio decreased significantly ($P = 0.036$) from 3.4 $\pm$ 0.7 to 2.2 $\pm$ 0.9, which approached the target level (2.0). During the rosuvastatin treatment period, serum creatine kinase, aldolase, and myoglobin concentrations did not change. In conclusion, rosuvastatin treatment improved serum triglyceride level as well as the LDL/HDL ratio in hyperlipidemic patients with CKD stage 3 and above, without serious adverse effects, suggesting that rosuvastatin is useful to control not only hypercholesterolemia but also hypertriglyceridemia in CKD patients.

http://dx.doi.org/10.1016/j.krcp.2012.04.599

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EFFECT OF SARPOGRELATE ON FISTULA PATENCY OF FOREARM ARTERIOVENOUS ANASTOMISIS IN UREMIC PATIENTS

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Subcutaneous arteriovenous fistula in the forearm is a common vascular access for hemodialysis. However, primary failure of native fistula occurs because of either thrombosis formation within the first several weeks after surgery or immature vein dilatation. To evaluate the effect of platelet inhibition on fistula thrombosis and maturation failure, we used an antiplatelet agent, sarpogrelate hydrochloride, in our study. The study was designed as an open-label, parallel, prospective, randomized study for 8 weeks, comparing patients receiving sarpogrelate 300 mg/day (sarpogrelate group, $n=33$) with controls receiving no medication ($n=46$). The primary outcome was fistula patency failure determined by pulse Doppler ultrasound examination of the arteriovenous fistula performed 8 weeks after surgery. Pulse wave velocity was also measured to determine the ankle brachial pressure index (ABI). The drug was well-tolerated and did not increase bleeding events during the 8-week study period. In the sarpogrelate group, patency failure occurred in 1 of 33 patients (3.0%), and the occlusion rate was significantly lower ($P=0.001$) than that in the control group (3 of 46 patients; 6.5%). Average blood flow rate in the sarpogrelate group was 546 ± 174 mL/min, and was significantly higher ($P=0.036$) than 448 ± 183 mL/min in the control group. However, the diameter of the shunt vessel in the sarpogrelate group was 5.2 ± 1.3 mm, which was not different from 5.1 ± 0.6 mm in the control group. The Vmax was not significantly different between two groups (1.01 ± 0.56 m/sec in the sarpogrelate group and 0.89 ± 0.66 m/sec in the control group). In all patients ($n=79$), blood flow correlated with ABI ($r=0.34$, $P=0.045$). Our results suggest that sarpogrelate reduces the frequency of fistula patency failure. Sarpogrelate may maintain fistula patency, which is necessary for hemodialysis, by increasing ABI.

http://dx.doi.org/10.1016/j.krcp.2012.04.600