was detectable mainly in the microvilli under resting conditions. In parallel, a phosphatidylinositol-4-phosphate 5- kinase (PI(4)P5K) was also detected almost exclusively in microvilli, indicating that PI(4,5)P2 is synthesized and stored in microvilli. Interestingly, after cholesterol synthesis was inhibited by lovastatin, PI(4,5)P2 diffused into planar regions and a consequent activation of ROMK1 channels. Activation of ROMK1 channels by MβCD was reversed by addition of exogenous cholesterol, but the activation did not occur when PI(4,5)P2 was sequestered with a PI(4,5)P2 antibody.

**CONCLUSIONS** These results suggest that cholesterol inhibits ROMK1 channels at least in part, by limiting PI(4,5)P2 diffusion from microvilli to planar regions of the renal CCD apical membrane, and statins could attenuate hyperkalemia induced by CsA and lipid metabolism disorders. In addition, this research will firstly establish the dynamic model for lipid-protein distribution, transfer and interaction among the microstructures of cell membrane.

**GW26-e4543**

Hyperhomocysteinemia and contrast-induced nephropathy in diabetic patients with renal dysfunction who underwent percutaneous coronary intervention

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**OBJECTIVES** The relationship between homocysteine and contrast-induced nephropathy (CIN) is not well evaluated. The present study aimed to determine the effects of hyperhomocysteinemia on CIN in diabetic patients with renal dysfunction who underwent percutaneous coronary intervention (PCI).

**METHODS** We conducted a prospective study involving 247 patients with type 2 diabetes and renal dysfunction (eGFR < 60 mL/min per 1.73 m²). PCI was performed with standard procedure. Plasma levels of homocysteine were measured before PCI. Based on the plasma homocysteine levels, patients were divided into three groups: the first tertile (n = 82, homocysteine < 12.4 μmol/L), the second tertile (n = 82, 12.4-16.9 μmol/L), and the third Tertile (n = 83, >16.9 μmol/L). CIN was defined as an elevation of serum creatinine by ≥25% or ≥0.5 mg/dL from baseline within 48 h after PCI. Multivariate logistic regression analysis was performed to determine the predictors of CIN.

**RESULTS** The incidence of CIN was significantly higher in patients with the third homocysteine tertile, when compared to those with the second and first tertile (28.04% vs. 10.97% vs. 8.43% respectively, P < 0.001). At the same time, the levels of plasma homocysteine significantly increased in CIN patients than those without CIN (18.1±4.6 vs. 14.4±3.7 μmol/L, P < 0.001). After adjustment for the other risk factors such as age, anemia, eGFR, myocardial infarction, IABP, LVEF, HbA1c and contrast volume, multivariate logistic regression analysis considered that hyperhomocysteinemia was an independent predictor for CIN [Odds ratio 1.574 (1.127, 2.365), P < 0.001].

**CONCLUSIONS** Hyperhomocysteinemia is independently associated with a greater risk of CIN in diabetic patients with renal dysfunction who underwent PCI.

**GW26-e4532**

Relationship between Carotid atherosclerosis, Aortic valve calcification and Atherosclerotic renal artery stenosis

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**OBJECTIVES** To study the relationship between carotid atherosclerosis, aortic valve calcification (AVC) and atherosclerotic renal artery stenosis (ARS).

**METHODS** 162 cases of patients with chest pain, who were underwent renoarteriography were selected and divided into ARAS group (29) and control group (133) according to the angiographic results. The age, gender, history of smoking, hypertension, diabetes, hyperlipidemia and coronary heart disease were recorded and compared between two groups. The total cholesterol (TC), triglyceride (TG), low-density lipoprotein (LDL-C), high-density lipoprotein (HDL-C) levels of patients were measured, and the carotid artery intima-media thickness (CIMT), carotid atherosclerosis and aortic valve calcification (AVC) were investigated by carotid ultrasonography and echocardiogram.

**RESULTS** The constituent ratio of hypertension history, TC, CIMT, incidence of carotid atherosclerosis and AVC were significantly higher in the patients of ARAS group than those of the control group. The sensitivity, specialty of carotid atherosclerosis for predicting the ARAS were 72.24 %, 56.39 %, and the sensitivity, specialty of AVC were 44.83 %, 74.45 %. The sensitivity, specialty of combination of carotid atherosclerosis and AVC were 41.38 %, 76.69 %.

**CONCLUSIONS** Carotid atherosclerosis and AVC were useful for the diagnosis of ARAS, which could be used to exclude the ARAS.