P-201

한국인 당뇨환자에서 Glypican-4와 당뇨 합병증과의 연관성

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The Association of Glypican-4 with Diabetic Complications in Korean Population

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Glypican-4 (Gpc4) is an adipokine, which is known to be important for adipocyte differentiation by interacting with and regulating insulin receptor activation and its downstream signaling. Serum Gpc4 is known as a marker for BMI and insulin sensitivity in mice and human. But it is uncertain that the association of Gpc4 with diabetic complications. We investigated the association of serum Gpc4 level with diabetic complications in a prospective cohort of 161 Korean diabetic patients from 2002 to 2013. In Univariate regression analysis, glycemic variability, estimated GFR was negatively correlated and urine albumin excretion and use of ACE inhibitor was positively correlated with serum Gpc4 level (all $p<0.05$). In multivariate regression analysis, the increase of serum Gpc4 level was associated with the decrease of glycemic variability independently ($p=0.05$). And the increase of serum Gpc4 level was associated with the increase of urine albumin excretion ($p=0.02$). The serum Gpc4 level was not associated with retinopathy, neuropathy, nephropathy, cardiovascular disease, cerebrovascular events. Also serum Gpc4 level did not increase depending on the CKD-epi stage. Taken together, there is no relationship between diabetic complications and serum Gpc4 level. But more research is needed on the relationship between Gpc4 and diabetic complications.

Key Words: 글리피칸-4, 당뇨 합병증
Glypican-4, Diabetic complications