

투석전 당뇨병성 신증 환자에서 당화 알부민이 당화혈색소에 비해 좀더 정확히 혈당 상태를 나타낸다

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Glycated Albumin Reflects Glycemic Control More Accurately than Hemoglobin A1c in Diabetic Patients with Pre-dialysis Chronic Kidney Disease

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Background: Glycated albumin (GA), compared with hemoglobin A1c (HbA1c), is thought to be more accurate indicator of glycemic control in dialysis dependent patients. However, the significance of these assays has not been evaluated in patients with pre-dialysis chronic kidney disease (CKD).

Method: GA and HbA1c were measured simultaneously in 132 diabetic patients. According to the estimated glomerular filtration rate (eGFR), the subjects were categorized into pre-dialysis CKD (eGFR n=83) and non-CKD controls group (n=49)

Results: Relative to non-CKD control groups, in pre-dialysis CKD group, GA tended to be higher while HbA1c lower. However, there was no significant difference in GA and HbA1c between 2 groups. GA/HbA1c ratio was significantly higher in CKD group compared with non-CKD group (2.76 ± 0.38 vs 2.46 ± 0.30 , $p < 0.001$). GA/HbA1c ratio was inversely correlated with eGFR only in CKD patients ($r = -0.57$, $p < 0.001$). In all patients, multiple regression analysis showed the CKD status (pre-dialysis or non-CKD) was only predictor for GA/HbA1c ratio after adjustment of age, sex, smoking status, hemoglobin, albumin, and random glucose ($\beta = 0.29$, $P = 0.009$).

Conclusion: Our results show HbA1c significantly underestimates glycemic control status while GA more accurately reflects this control in diabetic patients with pre-dialysis CKD.

Key Words: 당화알부민, 당화혈색소, 만성신질환

Glycated albumin, Hemoglobin A1c, Chronic kidney disease