HbA1c level is associated with low-grade albuminuria in non-diabetic adult population

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Many researchers have focused on the clinical effects of low-grade albuminuria (LGA), defined as urinary albumin-to-creatinine ratio (UACR) <30 mg/g. Previous studies have shown an association between LGA and various cardiometabolic risk factors. Further investigation of new markers for LGA are on-going. Regarding the association between HbA1c levels and microvascular complications, high HbA1c level in non-DM participants may be associated with LGA as an indicator of microvascular complications. But, few studies have investigated that relationship. The aim of this study is to evaluate the association between HbA1c and LGA in participants without DM. Data from the Korean National Health and Nutrition Examination Survey (KNHANES 2011-2013) were used for this analysis. There were 24,594 participants in the KNHANES survey. Exculsion criteria are as follows: unavailable data for HbA1c (n=2,415) or albuminuria (n=1,189), age less than 19 years (n=5,622), micro- or macro- albuminuria (UACR ≥ 30 mg/g; n=1,106), or DM (defined as a self-reported history of DM, a fasting glucose level of ≥126 mg/dL, or HbA1c ≥ 6.5%; n=1,488). Finally, 12,774 participants were included and divided into three groups according to HbA1c level: a Low- (<5.7%), Middle- (5.7-6.0%), and High-group (>6.0%). High LGA was defined as UACR ≥ 3.9 mg/g for men and UACR ≥ 7.5 mg/g for women. HbA1c level was associated with UACR in the non-DM participants (Fig. 1). Therefore, those with relatively high HbA1c levels should be closely monitored for UACR, even though without DM.

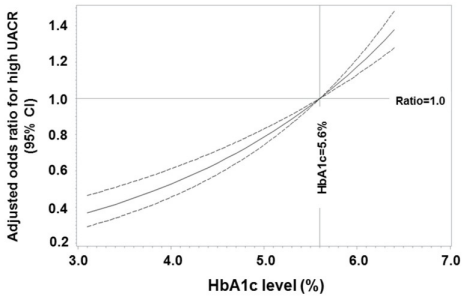

Figure 1. Adjusted restricted cubic spline curve showing odds ratio and 95% confidence interval (dashed line) for a high urinary albumin-creatinine ratio with HbA1c level (median value=5.6%). Spline curve was adjusted for age and sex.

A Case of spontaneous full recovery from Central Pontine Myelinolysis

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Central pontine myelinolysis (CPM) is a neurological disease characterized by destruction of myelin sheaths of brain cells in the pons, usually caused by rapid correction of chronic hyponatremia. Although previous reports on CPM described very poor outcome, recent some reported that relowering of serum sodium within 24hr after symptom onset showed a favor recovery from CPM. However, it is unusual spontaneous full recovery from CPM without relowing of Na. We report a case of 59-year-old woman diagnosed with CPM, and recovered spontaneously. A 59-year-old woman presented to our hospital with scalp laceration. On admission she was alcohol ordor state, but she was alert. She complained nausea and vomiting which had evolved 2 days. Her serum biochemistry showed sodium of 111.1 mEq/L. She was treated with 3% saline. And six hours later, when serum sodium was 119.9 mEq/L, 3% saline was stopped and we started 0.9% saline. At that night, she showed severe emotional lability and disorientation. She didn't sleep all night. On 2nd admission day, serum sodium was 130.4 mEq/L. We consult to psychiatry about anxiety. She was diagnosed with delirium tremens and started on chlordiazepoxide. On 3rd admission day, serum sodium reached 137.8 mEq/L. On 5th admission day, patient became drowsy. Neurological examination revealed only general weakness. Focal neurologic deficits were not observed. So we suspected drug side effect due to chlordiazepoxide. We decided to reduce chlordiazepoxide. On 9th admission day, her drowsy mental state wasn't improved. We stopped chlordiazepoxide. Brain MRI was performed, and MRI showed high signal intensity in the central pons and bilateral basal ganglia and thalamus on T2-weighted image and diffusion weighted imaging. She was diagnosed with CPM and EPM. We continued supportive care since then, but she couldn't speak and couldn't move her extremities herself for a long time. While continuing supportive care, her drowsy mental state gradually improved. On 22th admission day, she became alert and could handshake. On 26th admission day, she was discharged to convalescent hospital. Three weeks after discharge, when she came to out-patient clinic, she showed full recovered neurologic problem.