

Analysis of glycoproteome in serum of type 2 diabetics with nephropathy

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Diabetic patients inevitably accumulate glycosylated proteins in their tissues and body fluids. The albumin, immunoglobulins, and the b chain of hemoglobin, are well-known blood proteins which undergo non-enzymatic glycosylation. Albumin and the b chain of hemoglobin have become an important marker for the short-term and long-term control of the glycemic state of diabetic patients with hyperglycemia, respectively. However, except for those three kinds of proteins, the individual serum protein which is susceptible to the glycosylation has not been studied yet. Therefore, in this study, we tried to identify every individual which undergoes glycosylation as the type 2 diabetes and type 2 diabetic nephropathy progress, so that eventually, to develop them as a biomarker for diagnosis of early stage of type 2 diabetic nephropathy. For this study, two-dimensional electrophoresis was used to separate proteins. The sera of healthy subjects, type 2 diabetics with and without nephropathy were obtained from Guro Medical Center of Korea University. Diabetic nephropathy was diagnosed by screening the amount of creatinine in urine of type 2 diabetic patients. Upon collection, firstly, albumin and IgG were removed from serum using "Albumin and IgG Removal Kit". Then the samples were consecutively undergone IEF and SDS-PAGE. The gels were first stained with "Pro-Q Emerald 488" and then with "silver nitrate." The protein spots were analyzed and their intensity was compared with the biochemical data obtained from the Guro medical center.

References

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