Development of An Automated Imunoassay for Advanced Glycosylation End Products in Human Serum

吴志雄

Chuai-Yu Lin;Chuan-Sern Chen;Ming-Song Shieh;Chih-Hsiung Wu;and Horng-Mo Lee

摘要

Abstract

Objective: Nonenzymatic reaction of protein and carbohydrate produce a series of brown fluorescent advanced glycosylation end products (AGEs). However, a convenient and rapid assay for serum AGEs level is currently unavailable. Methods: We raised AGEs-specific polyclonal antibodies, which were used to develop a fully automated, noncompetitive, homogeneous, light-scattering immunoassay for serum AGEs. Results: The assay requires a sample volume of 2 < mu >L and takes a reaction time of 2 min. Thecoefficient of variation range from 1.8 to 6.1%, and the mean recovery rate was 98.6%. Comparative analysis shows moderate correlation with competitive ELISA (r = 0.8209, n = 52). The mean ?SD concentration of AGEs in young and in older healthy subjects were 4.6 ?1.5 (n = 39) and 4.9 ?1.4 (n = 40), respectively. The level of AGEs was significantly higher in serum from patients with type II DM 7.8 ?4.8 (n = 89) than that from the normal subjects (p < 0.05). Conclusions: The automatic immunoassayfor AGEs is appropriate for clinical use.