

Comparative Analysis of Glycated Hemoglobin (hba1c) Between HPLC and Immunoturbidimetry Method in Type II Diabetes Mellitus Patient

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Abstract : Background: Diabetes mellitus is still increasing and has become a health and social burden in the world. It is known that glycation among various proteins is increased in diabetic patients compared with non-diabetic subjects. Some of these glycated proteins are suggested to be involved in the development and progression of chronic diabetic complications. Among these glycated proteins, glycated hemoglobin (HbA1C) is commonly used as the gold standard index of glycemic control in the clinical setting. HbA1C testing has some methods, and the most commonly used is immunoturbidimetry. This research aimed to compare the HbA1c level between immunoturbidimetry and HbA1C level in T2DM patients. Methods: This research involves 77 patients from Abd Muluk Hospital Bandar Lampung; the patient was asked for consent in this research, then underwent phlebotomy to be tested for HbA1C; the sample was then examined for HbA1C with Turbidimetric Inhibition Immunoassay (TINIA) and High-Performance Liquid Chromatography (HPLC) method. Result: Mean \pm SD of the samples with the TINIA method was 9.2 \pm 1,2; meanwhile, the level HbA1C with the HPLC method is 9.6 \pm 1,2. The t-test showed no significant difference between the group subjects. (p<0.05). It was proposed that the two methods have high suitability in testing, and both are eligibly used for the patient. Discussion: There was no significant difference among research subjects, indicating that the high conformity of the two methods is suitable to be used for monitoring patients clinically. Conclusion: There is increasing in HbA1C level in a patient with T2DM measured with HPLC and or Turbidimetric Inhibition Immunoassay (TINIA) method, and there were no significant differences among those methods.

Keywords : diabetes mellitus, glycated albumin, HbA1C, HPLC, immunoturbidimetry

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