

Topic: Comparison of two methods for measurement of blood HbA1c as to reliability, ease and time consumption."

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Abstract: Determination of Glycosylated hemoglobin (HbA1c) is one of the most important monitoring procedures for long-term control of diabetes mellitus. Most frequently used analytical methods are turbidimetric inhibition immunoassay (TINIA) and high performance liquid chromatography (HPLC). HPLC is the standard method for HbA1c but inaccurate HbA1c values can occur when hemoglobin variants are present in diabetic patient. Hb variants can interfere with HbA1c methods for a variety of reasons. **The aim of our study** is to see whether TINIA method can report HbA1c values in diabetic patients with variant hemoglobin when the values are inaccurate on HPLC. Measurements of HbA1c were made in blood samples from 1040 patients with pre-diabetes and diabetes using TINIA and HPLC. **Results:** There was good concordance between results of TINIA and HPLC methods ($r = 0.981$, $p<0.0001$). 14 samples showed very low or undetectable results for HPLC method, these samples with TINIA method showed slight low or normal values. The measured total time spent on 100 samples was 60 minutes for TINIA and 310 minutes for HPLC. **Conclusion**: It has been found that, the TINIA method, which is reliable, faster, and easier to perform, can be used as an alternative to HPLC measuring system within the known imprecision limits." TINIA method requires measurement of total hemoglobin, and HPLC does not require measurement of total hemoglobin. Both the methods have their own limitations. Hb variants can interfere with HbA1c methods for a variety of reasons, Laboratorians should be aware of the limitations of their method with respect to interference from the most prevalent Hb variants.

Biography

Ms. Smita Bolkar has completed her M.Sc from Mumbai University. She is the Scientific Assistant in Dept of Biochemistry, Tata Memorial Hospital: the national comprehensive cancer centre for the prevention, treatment, education and research in cancer and is recognized as one of the leading cancer centres in this part of the world. She has got 25 years of work experience in Clinical Biochemistry. She has published papers in reputed journals, Participated in Clinical trials and National CMEs in Clinical Biochemistry

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