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Effect of different anti-coagulants on the accuracy of glycated haemoglobin results

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Abstract

Most manufacturers of glycated haemoglobin kits advocate for the use of EDTA bottles for sample collection. Other manufacturers even when using the same glycated haemoglobin assay method, advocate for the use of any of these anticoagulant: EDTA, heparin and fluoride oxalate as any of these anticoagulants for sample collection. This study was therefore designed to evaluate the effect of different anticoagulants on the accuracy of glycated haemoglobin value using the same method. Thirty subjects were selected by purposive sampling method and 2ml of blood was collected from each subject into sodium heparin, EDTA and fluoride oxalate bottles and stored for three days at 40C. Fifteen subjects' samples were analysed daily for the next two days then all the samples were analysed on the third day. All samples were analysed using the boronate affinity chromatographic method by Clover. The mean of the values of glycated haemoglobin of samples for each anticoagulants were about the same for the first, second and third day. The differences in the mean values for each anticoagulant were not statistically significant, indicating fairly good stability. From this study, it could be concluded that blood sample in EDTA, fluoride oxalate and heparin bottles can be used for glycated haemoglobin estimation without affecting the accuracy of the result. These samples in these containers were found to be stable for at least three days.

Biography

Frederick Allison was born in Nsawam, Ghana. Had his primary education in Ghana and his secondary education in Nigeria. He then read medicine in the University of Calabar and later became a fellow of the National Post-graduate Medical College of Nigeria. Presently a lecturer in the department of chemical pathology, university of Port Harcourt in Rivers State Nigeria.

Publications

Influence of Blood Collection Methods on Some Analytes; Potassium and Sodium

Reference Interval of Plasma Urea in a Port Harcourt Population: A Retrospective Study

Effect of Different Anti-Coagulants on the Accuracy of Glycated Haemoglobin Results

Reference Interval of Glycated Hemoglobin in Adults in Port Harcourt, Nigeria

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