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LETTER TO THE EDITOR

Various Anticoagulants and Fluoride do not Affect HbA_{1C} Level

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To the Editor,

Glycated hemoglobin (HbA_{1C}) is an accepted index of mean blood glucose [1]. It is formed by the non-enzymatic binding of circulating glucose to hemoglobin. Higher levels of glucose in the blood contribute to more binding and consequent higher levels of HbA_{1C} [2].

In the laboratory, different investigations require blood collection with different additives. In case of HbA_{1C} estimation most of the commercially available kits demand blood collection in EDTA tubes which often necessitates collection of additional blood. Considering this the present study was designed to determine the effect of common blood additives on HbA_{1C} level (Table 1).

Venous blood samples from four normal healthy males and two diabetic patients were collected in commercially available EDTA, sodium citrate, heparin and fluoride tubes (Agappe Diagnostics Ltd) as per the manufactures instructions. HbA_{1C} was estimated after three hours of blood collection using BioRad D10 cation exchange HPLC analyzer.

No significant changes in the HbA_{1C} values were observed between the samples taken in different tubes. The results revealed that lithium heparin, EDTA, sodium citrate and fluoride in the commercially available blood collection tubes do not affect HbA_{1C} level, when tested within 3 h after collection. The results exclude the absolute necessity for blood collection in EDTA tubes for HbA_{1C} estimation. Although the kits recommend the use of EDTA tubes, there is no harm in using other anticoagulants.

Table 1 Effect of blood additives on HbA_{1C} level (as % of total Hb)

	EDTA	Heparin	Citrate	Fluoride
Normal Sample 1	5.6	5.6	5.6	5.6
Normal Sample 2	5.5	5.6	5.5	5.5
Normal Sample 3	5.9	5.9	5.8	5.9
Normal Sample 4	5.6	5.7	5.6	5.6
Diabetic Sample 1	10.1	10.1	10.2	10.1
Diabetic Sample 2	9.7	9.6	9.6	9.6

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