

**Short Communication****Relationship between HbA1c and Blood pressure in Type II Diabetes Mellitus patients in India**

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Abhishek Sinha**Abstract**

The aim of this short communication is to present some additional data regarding whether a relationship exists between HbA1c levels and Blood pressure values in a specific subset of Type II Diabetes Mellitus patients in India from our earlier study.

The aim of this short communication is to provide some additional information regarding the article titled "***Relationship between Duration of disease, BMI and blood glucose with HbA1c levels in Type II Diabetes Mellitus patients in India¹***" published earlier¹. In brief, in the above study, 87 Type II Diabetes Mellitus (DM) patients were recruited. Biochemical estimation of their HbA1c and blood glucose levels was done. It was found that the duration of diabetes and BMI were not correlated with HbA1c levels, however FBG and PPG were correlated significantly with HbA1c levels. Also BMI, duration of diabetes, FBG and PPG were found to be independent predictors of HbA1c levels in these patients.

In the present short communication, I wish to submit some new results based on data analysis from the same group of patients as mentioned in the above study. The relationship between HbA1c with Pulse rate, Systolic Blood pressure and Diastolic Blood Pressure for these patients was determined using correlation analysis using the same statistical analysis methodology as the

earlier study. No significant ($p < 0.05$) correlation was found between these variables with HbA1c. The results are shown in Table 1 below. Other studies on these variables have reported conflicting results. Britton et.al² in their study on 19,858 women who did not have diabetes, found out that HbA1c was correlated with an increased risk of hypertension. Additionally this relation was no longer significant after adjustment for BMI. Hu et.al³ in their study on 3,070 employees with diabetes found out that there was no significant difference in HbA1c levels between participants of uncontrolled hypertension on treatment and those with treated and controlled hypertension. Singer et.al⁴ studied the cross-sectional relationship between HbA1c and cardiovascular disease in 1045 subjects. They found out that HbA1c was significantly related to cardiovascular disease among older women but not men. HbA1c levels were also related to hypertension and to the ratio of Total/HDL cholesterol levels.

Table 1 Correlation analysis between HbA1c and cardiovascular variables in Type 2 DM patients

		Pulse(beats/min)	SBP(mmHg)	DBP(mm Hg)
HbA1c (8.4±1.9)	Mean±SD	83.4±7.49	137.6±15.6	84.9±16.1
	r value	0.141	-0.072	0.014
	P value	0.207	0.523	0.901

In conclusion, it can be said that, when the HbA1c and cardiovascular variables are considered independently in our study¹, there was no significant correlation observed between HbA1c and cardiovascular parameters namely Pulse rate (or heart rate), SBP and DBP in Type II DM patients. I would like to thank Dr Krishnan S, Assistant Professor, Department of Physiology, A.I.I.M.S Guwahati for the statistical analysis of the data for the above variables.

References

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