ASSOCIATION OF TIGHTNESS OF GLYCEMIC CONTROL WITH BIOMARKERS OF AGEING IN HEALTHY AND DIABETIC SUBJECTS

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Diabetes mellitus and ageing share common symptoms like stiffness and loss of functioning of tissues due to cross-linked proteins and free radicals. Glycated Haemoglobin (HbA1c) is often used as a stable cumulative index of glycemic control and has shown that even in non diabetic adults, there is a steady increase in HbA1c levels with age.

Aim of the study is to evaluate the strength of association of HbA1c with metabolic and cardiovascular ageing indices in subjects between the age group of 40 to 60 yrs. A total of 220 subjects, with (n=110) and without (n=110) diabetes were assessed for the metabolic and cardiovascular ageing biomarkers. BMI, waist hip ratio, fat percentage, Fasting blood sugar and HbA1c were assessed as metabolic ageing biomarkers. The cardiovascular ageing indices measured were resting heart rate, blood pressure and Heart rate Variability.

Ageing biomarkers were compared between subjects with and without diabetes using independent 't' test and showed that the T2DM group exhibit significant accelerated ageing as compared to that of the controls. Pearson's and partial correlation coefficient was used to assess the association of Glycated Haemoglobin with the ageing biomarkers without and with controlling for chronological age, indicated that, strength of association of levels of HBA1c with cardiovascular and other metabolic biomarkers of ageing is statistically significant. Therefore, the study concludes that the tightness of glycemic control has a significant impact on the biological ageing process.

Biography

Shailaja Moodithaya has her research interest in Physiology of Aging and Autonomic Neural activity. She developed interest in this field as a teacher of medical physiology, since 1990. She has worked on projects from agencies like Indian Council of Medical Research, Board of Research on Nuclear Science etc. Her works on health issues relating to autonomic dysfunctions are well published and presented in National and International Conferences.

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