

5th International Conference on

Alzheimer's Disease & Dementia

September 29-October 01, 2016 London, UK

To Investigate Role of Glycosylated Hemoglobin(HbA1C) as a Biomarker for prediction of Dementia & Cognitive Dysfunction in Type 2 Diabetic Patients

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Introduction: Diabetes Mellitus is one the major disease burden globally. One of the significant complication of the uncontrolled Diabetics is Cognitive dysfunction & Dementia. In this study we laid focus on the Evaluation of HbA1C as a Biomarker to predict Dementia & Cognitive Dysfunction in Type 2 Diabetic Mellitus.

Aim of the study: A pilot study to investigate HbA1C as a Biomarker for prediction of Dementia & Cognitive Dysfunction in Type 2 Diabetic Mellitus in a Hospital Setting.

Methods and Results: A prevalence study in which 60 subjects (n=30 Type 2 Diabetics ; n = 30 non -Diabetic) were enrolled. In this study HbA1C values were correlated with that of individual memory & cognition batteries* score.

The mean values of HbA1C in the Diabetic group (n = 30) was found to be 9.19. The corresponding values of Pearson's Correlation "r" in the diabetic group of the wrt various Cognitive batteries were : General Practitioner Assessment of Cognition (GPCOG) = -0.53; Attendant Informant Tool (AI) = - 0.43; Memory Impairment Screen (MIS) = -0.37 ; MINI COG = -0.29. Negative values of the Pearson's Correlation "r" indicates that lower the respective battery score , poorer is the cognitive function. Similarly, in the non-Diabetic group (n =30), no significant Dementia & Cognitive Impairment was found when same group of Cognitive Batteries were administered.

Conclusion: It is quite evident from the results that HbA1C as biomarker has a great potential to predict Dementia & Cognitive decline in uncontrolled Diabetes. However, the study needs to be conducted on a larger scale along with comparative analysis with tools like Functional MRI and other standard biomarkers.

Biography

Aman Gupta is involved in caring for patients with cognitive and behavioral problems. Dr. Gupta is running a Memory Clinic for people with problems resulting in decline in memory, confusion, depression etc. Dr. Gupta has completed his Visiting Fellowship –Functional MRI– Harvard Medical School, Boston ,MA, USA. With a MD , followed up by Masters of Science- Clinical Research, Cranfield University ,School of Health, England, Dr. Gupta has been into Clinical practice over 12 years. Dr Gupta has been affiliated to Premier institutes like Sir Gangaram Hospital (Department of Neurology) New Delhi, MAX Health Care New Delhi, Banaras Hindu University on various projects. Currently he is conducting research on Dementia & Diabetic association as a PhD-Research Scholar at Amity Institute of Neuropsychology & Neurosciences, Amity University Uttar Pradesh, Noida, India.

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