Relationship among HbA1c and Lipid Profile in Punajbi Type 2 Diabetic Population

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Abstract

This study was planned to evaluate the relationship among glycated haemoglobin (HbA1c) and lipid profile in type 2 diabetic males of Punjabi population. A total of 120 type 2 diabetics with an age ranged from 30 to 70 years volunteered to participate in this study. The glycated haemoglobin (HbA1c) & lipid profiles were recorded with standard procedure. The statistical analysis was done by using SPSS version 16.0. The mean HbA1c was 7.34 ± 1.24%. There were 59% subjects with high total cholesterol (TC) levels and 98% were with raised LDL levels. The 65% of the subjects were having lower HDL level. HbA1c demonstrated significant positive relationship with total cholesterol, TC (r=0.29), triglyceride, TG (r=0.26), high density lipoprotein cholesterol, HDL-C (r=0.19) and with low density lipoprotein cholesterol, LDL-C (r=0.5). It was concluded from the results of this study that HbA1c can also be used as a predictor of dyslipidaemia in type 2 diabetics in addition to as a glycemic control parameter. Thus, early diagnosis of dyslipidaemia can be used as a preventive measure for the development of cardiovascular disease (CVD) in type 2 diabetics.

Keywords: Diabetes mellitus, Dyslipidemia, CVD.

Introduction:

The diabetes mellitus is becoming more and more prevalent in Indian society. In India, it is estimated that approximately 2% of the population, 15 million people have diabetes *(Swami, 1984)*. The number of cases is said to be rising by 5%-6% each year and an estimated 300,000 people die from diabetes and its complication *(Herman et al., 1984)*. There are about 3.5 crore diabetics in India and the figure will rise to about 5.2 crores by 2025. Every 5th patient visiting a consulting physician is a diabetic, and, every 7th patient visiting a family physician is a diabetic. Prevalence of diabetes is higher in Indian subcontinent & it is estimated that 20% of global burden resides in South East Asia Region (SEAR) area, which will be tripled to 228 million by the year 2025 from the current 84 million *(Park, 2007)*. Keeping in view the alarming increase in the incidence and prevalence of diabetics in India, WHO has declared India as the "Diabetic Capital of the World" *(Gupta, 2002)*. Chronic hyperglycemia is associated with significant long-term complications, particularly damage to the nerves, heart, blood vessels, eyes and kidneys *(Yki-Yarvinen, 1998)*. The abnormalities like insulin resistance, hyperinsulinemia, hyperglycemia, dyslipidemia, and hypertension in type 2 diabetics tend to cluster and are often referred to as the "metabolic syndrome *(Grundy,1998)."* Elements of the