The Effect of Simvastatin on Diabetic Dyslipidemia

Madam, Dyslipidemia is a major problem in diabetes. It occurs more commonly in Type-II diabetes alongwith obesity and serum lipid abnormalities are characterized by decreased HDL cholesterol and elevated total triglyceride levels, whereas total cholesterol and LDL cholesterol levels in patients with this type of diabetes do not differ from those in nondiabetic subjects. The risk of coronary heart disease (CHD) death and serious nonfatal CHD events markedly increased in diabetic patients relative to nondiabetic subjects[1-3]. Furthermore, clinically manifest CHD has a worse prognosis in diabetic patients than in nondiabetic subjects[4,5].

Among the various classes of lipid lowering drugs 3-hydroxy-3methyl glutaryl co-enzyme A (HMG-Co-A) reductase inhibitors (statins) are considered as the drug of first choice. In order to assess the efficacy of one such drug in our local population, a prospective study was done to evaluate the positive effect of Simvastatin 20 milligrams on diabetic dyslipidemia.

Adults with diabetic dyslipidemia aged 30 years and above were eligible to participate in this study. Known diabetics with LDL >130 or LDL / HDL ratio >4.5 were recruited. Of the patients visiting out-patient-department or cholesterol camps at Baqai Institute of Diabetology and Endocrinology, the first forty subjects who fulfilled the inclusion criteria were selected for this study. Before starting medication HbA le and lipid profile was done to assess glycaemic control and extent of dyslipidemia respectively. Lipid profile included the measurement of high density lipoproteins - cholesterol(HDL-C), low density lipoproteins - cholesterol (LDL-C), total blood cholesterol (TB-C) and triglycerides (TG). All the subjects were given Simvastatin 20 milligrams daily for an average of 6 weeks. Lipid profile was done at the end of the study to re-assess the improvement in lipid levels.

Height, body weight and blood pressure of all the patients was also recorded. Obesity was assessed by calculating Body Mass Index (BMI). Subjects having B.MI greater than 25 Kg/rn^2 were considered obese. Those having blood pressure greater than 140/90 rnmHg were considered hypertensive.

Out of the 40 patients recruited for this study half were males. The mean age of subjects was 52 years. The results of the lipid profile after giving medications for an average of around 6 weeks was that LDL-cholesterol decreased by 18%, cholesterol decreased by 13%, triglycerides decreased by 27% while HDL-cholesterol increased by 22%.

The results suggest that Simvastatin is effective for lowering lipid profile in diabetic dyslipidemias in our local population. These results are also supported by similar studies[6] done previously in which Simvastatin decreased levels of total blood cholesterol, LDL-C and triglycerides while it increased the level of HDL-C.

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