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Lipid pattern in serum of patients with type 2 diabetes mellitus

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Abstract

The most common pattern of diabetic dyslipidemia is elevated triglycerides levels and decreased high density lipoprotein cholesterol (HDL-C) levels. Type 2 diabetic patients may have elevated levels of non-high density lipoprotein cholesterol (non-HDL-C). The concentration of low density lipoproteins cholesterol (LDL-C) was reported to be not significantly different from non-diabetic individuals. Recently it has been reported that the measurement of LDL-C as well as triglycerides may not be fully standardized in many clinical laboratories. The present study is designed to compare the serum lipid pattern of type 2 diabetes mellitus patients with non-diabetic individuals and the LDL-C was determined by a direct method. Fasting blood samples were collected from 94 subjects (47 diabetic and 47 non diabetic). In the present study diabetic samples showed, significantly higher levels of total cholesterol, TC (175.34 mg/dl ± 30.7), LDL-C (112.68 mg/dl ± 27.9), non-HDL-C (136.06 mg/dl ± 28.9) and TG (144.04 mg/dl ± 55.7), than non-diabetic samples, TC (150.26 mg/dl ± 24.7), LDL-C (90.74 mg/dl ± 22.1), non-HDL-C (104.54 mg/dl ± 24.2) and TG (97.6 mg/dl ± 33.8), with p values of $p< 0.0004$, $p< 0.0001$, $p< 0.00001$, $p< 0.00001$, respectively. Diabetic serum samples showed significantly lower HDL-C levels, (39.53 mg/dl ± 9.2) than that of non-diabetic samples, (43.94 mg/dl ± 9.8), with p value of $p< 0.03$.

Conclusion: Diabetic patients had a high TC, TG, LDL-C and non-HDL-C levels than the non-diabetic individuals, which may indicate that diabetic patients are more susceptible to cardiovascular disease than the non-diabetic individuals.