

Evaluation of Lipid Profile and PCSK9 Serum Levels in Parkinson's Patients in Comparison with Healthy Subjects

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Abstract

Introduction

Up to now, limited and contradictory results have been published on the role of prognostic values of lipid profile molecules including: HDL (High Density Lipoprotein), LDL (Low Density Lipoprotein), TG (Triglyceride), Total Cholesterol and PCSK9 (Proprotein Convertase SubtilisinKexin type 9) molecule in occurrence and development of Parkinson's disease (PD). The aim of this study was to investigate the role of lipid profile and PCSK9 in patients with PD and to compare it with healthy individuals.

Methods and Results

In the present case-evidence study, 32 individuals diagnosed with PD were compared with 32 healthy individuals. After receiving the participant's consent forms, 5 ml blood was taken from

vein and the level of HDL(High -Density Lipoprotein), LDL (Low-Density Lipoprotein), TG (Triglyceride),Total Cholesterol and PCSK9 in the blood samples were measured. The Elisa method was used for measuring PCSK9 level in blood serum. Data were analyzed using SPSS17 software. The P values smaller than 0.05 were considered significant.

The mean age of participants in the PD and control group was 56.9±8.8 and 53.7±10.1 years respectively (P>0.05). Twenty seven individuals (87.1%) and 13 individuals (41.9%) in the PD group and control group were men, respectively. The remaining participants were women (P=0.000). LDL level (84.2±24.9 ml/dl vs. 105.5±16.8, P=0.000), HDL (45.5±8.7 ml/dl vs. 51.1±9.5 ml/dl, P=0.000), total cholesterol (155.3±31.2 ml/dl vs. 192.8±32.5 ml/dl P=0.000) were lower and TG level was higher in the PD group (133.3±79.3 ml/dl vs. 131.2±58.6 ml/dl, P=0.9) compared with the control group. PCSK9 level was higher in the PDgroup, but no significant difference was found (141.6±70 vs. 129.7±51 ng/ml, P=0.5).

Conclusions

Our findings showed that individuals with PD have lower level of HDL, LDL and total cholesterol compared with the control group, but PCSK9 levels were same in both groups.

Key words

TG (Triglyceride), LDL (Low Density Lipoprotein), HDL (High Density Lipoprotein), PCSK9 (Proprotein Convertase SubtilisinKexin type 9, Total