

## Metabolism of lipids in Parkinson's disease

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Studies of recent years show the possibility of hyper- and hypocholesterolemia effects on both development and progression of Parkinson's disease (PD). The mechanism of lipid effects remains insufficiently studied, but recent researches point to a tendency towards a decrease in lipid metabolism in patients with PD. The purpose of this study was to evaluate the association of the lipid spectrum with the clinical features of the PD. 255 patients with PD were examined. The control group was 30 healthy people. The mean level of total cholesterol (TC) in the control group was  $5.4 \pm 1.2$  mmol/l, triglycerides (TG) was  $1.7 \pm 0.8$  mmol/l. Patients with PD showed a tendency to decrease these data in comparison with the control group (PD stage 1: TC -  $5.2 \pm 1.1$  mmol/l, TG -  $1.0 \pm 0.2$  mmol/l; PD stage 1.5: TC -  $5.0 \pm 1.1$  mmol/l, TG -  $1.2 \pm 0.4$  mmol/l; PD stage 2: TC -  $5.1 \pm 1.0$  mmol/l, TG -  $1.5 \pm 0.6$  mmol/l, PD stage 2.5: TC -  $4.9 \pm 0.9$  mmol/l, TG -  $1.0 \pm 0.2$  mmol/l). More pronounced changes were observed at stages 3 and 4 of the disease. The level of TC in patients with disease stage 3 significantly decreased compared with the control group to  $4.5 \pm 0.8$  mmol/l, TG to  $0.9 \pm 0.3$  mmol/l ( $p < 0.05$ ), in patients with PD stage 4 TC decreased to  $4.5 \pm 0.8$  mmol/l, TG to  $0.9 \pm 0.3$  mmol/l ( $p < 0.05$ ). Thus, we confirmed the hypothesis of a decrease in lipid metabolism in patients with PD and it was shown that in more severe stages hypocholesterolemia increases.