

Substance dependence alters serum lipid levels in addicted male patients

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Objectives: Studies have shown that opiate and heroin dependence causes alterations in serum lipids. In this study, we investigated the relationship between different types of substance dependence and serum lipid levels.

Methods: Serum lipid levels were measured in 97 patients with different types of substance dependence (heroin, methamphetamine, ketamine and codeine phosphate dependence), and in 99 healthy subjects. The clinical characteristics of substance-dependent patients were also investigated.

Results: Serum Total Cholesterol (TC; 3.74 ± 1.02 mmol/L, $P=0.017$) and high-density lipoprotein cholesterol (HDL-C; 1.12 ± 0.19 , $P=0.007$) levels were lower, and triglyceride levels (TG; 1.73 ± 0.89 mmol/L, $P=0.008$) were higher in the heroin dependence group compared to the control group. Serum TG (1.74 ± 1.11 mmol/L, $P=0.000$), HDL-C (1.44 ± 0.30 mmol/L, $P=0.011$), apolipoprotein A-1 (ApoA-1; 1.55 ± 0.28 g/L, $P=0.000$), and apolipoprotein B (ApoB; 1.55 ± 0.28 g/L, $P=0.000$) levels were higher in the methamphetamine dependence group, while serum TG (2.49 ± 1.56 mmol/L, $P=0.000$) and ApoB (0.93 ± 0.25 g/L, $P=0.000$) levels were higher in the ketamine dependence group compared to the control group. Additionally, the codeine dependence group exhibited higher serum TG (1.94 ± 1.34 mmol/L, $P=0.000$) and ApoB (0.82 ± 0.28 g/L, $P=0.003$) levels. We also found that patients with psychotic symptoms had significantly higher TG levels in the heroin, methamphetamine and ketamine dependence groups and lower TC and HDL-C levels in the heroin dependence group.

Conclusion: Our data suggested that different types of substance dependence caused varying degrees of change in serum lipid levels and that hypertriglyceridemia was consistent with psychotic symptoms in substance abuse patients.

References

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Biography

Xiaoni Zhang has her expertise in clinical and mechanism studies of substance dependence. She has completed her MD and MS at Sun Yat-Sen University, China. She is currently a Resident at Department of Neurology, Sun Yat-Sen Memorial Hospital, Sun Yat-Sen University. Her research field is focused on substance dependence and morphine-induced immunosuppressive effects.

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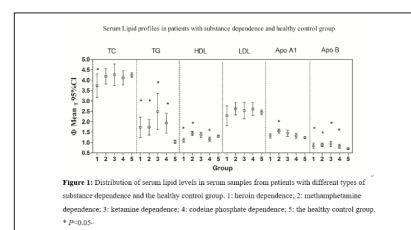


Figure 1: Distribution of serum lipid levels in patients with substance dependence and healthy control group. 1: heroin dependence; 2: methamphetamine dependence; 3: ketamine dependence; 4: codeine phosphate dependence; 5: the healthy control group. * $P < 0.05$.

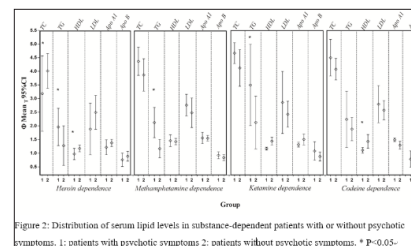


Figure 2: Distribution of serum lipid levels in substance-dependent patients with or without psychotic symptoms. 1: patients with psychotic symptoms; 2: patients without psychotic symptoms. * $P < 0.05$.