The Correlation between Early Alcohol Withdrawal Severity and Oxidative Stress in Patients with Alcohol Dependence

陳俊興
Huang MC; Chen CC; Peng FC; Tang SH; Chen CH

摘要
Abstract

Oxidative stress is enhanced in alcoholic patients. This clinical study aimed to explore the correlation between alcohol withdrawal severity and two oxidative stress markers, malondialdehyde (MDA) and superoxide dismutase (SOD). Seventy-six inpatients fulfilled the DSM-IV-TR criteria for alcohol dependence and 19 healthy controls were enrolled. Serum MDA level and SOD activity were measured within 24 h of alcohol detoxification. The severity of alcohol withdrawal was evaluated by the Chinese version of the revised Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar-C) every 8 h. Average and highest scores of the CIWA-Ar-C at the first day were recorded as the baseline withdrawal severity. We compared the differences of MDA and SOD between groups, and examined the correlation between baseline withdrawal severity and oxidative stress markers. Compared to controls, serum MDA levels were significantly elevated and SOD activity was significantly lowered in alcoholic patients. In stepwise multiple regression analysis, MDA was the only variable significantly correlated with the average (β = 0.48, p < 0.0001) and highest (β = 0.47, p < 0.0001) CIWA-Ar-C scores at the first day of detoxification. In agreement with previous studies, alcoholic patients encountered high oxidative stress. Although there was a correlation between early withdrawal severity and MDA levels, the meanings of the correlation are worth further studies in the future.