

## CAN AN INCREASE OF NITRIC OXIDE METABOLITES CONCENTRATION AFTER FIRST FOUR WEEKS OF ABSTINENCE PREDICT ALCOHOL RELAPSE DURING THE NEXT FIVE MONTHS?

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**ABSTRACT – BACKGROUND.** Nitric oxide (NO) is involved in a pathogenesis of alcohol dependence and affects the course of withdrawal syndrome. The aim of a study was to compare NO metabolites plasma levels in alcohol dependent patients (AD), who continued abstinence for 6 months and in those who relapsed during this period. **INVESTIGATED GROUP AND METHODS.** In 26 males with alcohol dependence (AD) who had finished their alcohol misuse no longer than 14 days before the study start NO metabolites plasma levels were determined at the baseline and twice during the observation period: at 4 weeks and at a 6-month follow-up, using the colorimetric method. **RESULTS:** At the 6-month follow-up AD subjects who relapsed to alcohol drinking (n=9, i.e. 35%) had significantly higher levels of NO metabolites than had those who remained abstinent (n=17, or 65%). However, the difference was found to be due to an increase in the in relapsed patients' mean NO metabolites level noted as soon as after four weeks of abstinence. An increase in the NO metabolites level or a decrease by no more than 4,4 mcmol/l was observed in 100% of the relapsed alcoholics and only in 53% of AD patients who remained abstinent after six months (p=0.023). Alcohol drinking relapse was predicted in logistic regression by the cut-off value of delta nitrites concentration amounting to – 4,4 mcmol/l after 4-week abstinence. **CONCLUSION:** This observation suggests that an increase or a slight decrease in NO metabolites plasma concentration following 4-week abstinence may be a predictor of alcohol drinking relapse during the next five months, but this requires further study.

**Key words:** nitric oxide, alcohol dependence, relapse.