

Lipid peroxidation products and α -tocopherol in alcohol dependent patients

Summary

The role of oxidative stress and of lipid peroxidation in alcohol toxicity was repeatedly emphasized. It was shown that alcohol administration enhanced hepatic generation of oxygen derived species and decreased antioxidant systems in this tissue which resulted in enhanced lipid peroxidation.

Final products of lipid peroxidation - thiobarbituric acid reactive substances (TBARS) were shown to be elevated also in the plasma of recently drinking persons.

In this study an attempt to evaluate the relationship between the presence of these products and the main plasma antioxidant namely α -tocopherol (vitamin E) was undertaken.

The subjects consisted of 16 alcohol dependent patients examined non later than one day after a heavy drinking period, of 10 alcohol dependent individuals abstinent for at least one month and of 9 non alcohol dependent moderately drinking persons as controls.

TBARS were determined by Yagi method, α -tocopherol by high performance liquid chromatography (HPLC) and cholesterol by Boehringer enzymatic tests.

The results showed that TBARS were significantly elevated in the group of intoxicated patients as compared with both other groups. The differences in α -tocopherol levels between the groups were nonsignificant. No correlation was stated between TBARS and α -tocopherol plasma levels.

The possibility of a contribution of other antioxidant factors is discussed.

Key words: alcoholism, thiobarbituric acid reacting substances (TRABS).

Piśmiennictwo

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