

Platelet Monoamine Oxidase Activity in Subgroups of Alcoholics and Controls: Results from the Collaborative Study on the Genetics of Alcoholism

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Objective: Platelet monoamine oxidase (MAO) B activity levels were evaluated to determine whether low platelet MAO activity is a marker for alcoholism, correlates of alcoholism (e.g., cigarette smoking), or a subtype of alcoholism. *Methods:* Adult women ($n = 788$) and men ($n = 685$) participating in the Collaborative Study on the Genetics of Alcoholism study were evaluated with a semistructured interview, and blood samples were obtained for determination of platelet MAO activity using tryptamine (0.1 mM) as substrate. DSM-III-R alcohol-dependent individuals were subgrouped using four currently available methods (e.g., two variations of the type 1/type 2 scheme, primary versus secondary typology, type A/type B dichotomy). *Results:* In the overall sample, subjects' gender, cigarette smoking status, and the Collaborative Study on the Genetics of Alcoholism site at which their platelets were prepared explained 22% of the variance in platelet MAO activity levels, and multivariate analysis showed that carrying a broad diagnosis of alcohol dependence did not uniquely explain any additional variance in platelet MAO activity levels. Furthermore, within each of the alcoholic subgrouping methods tested, there were no significant differences in platelet MAO activity for type 1 versus type 2, type A versus type B, or primary versus secondary alcoholics. *Conclusions:* Cigarette smoking and male gender are associated with decreased platelet MAO activity levels. After considering these factors, a diagnosis of alcohol dependence does not predict any additional variance in MAO-B activity. Phenotypes of alcoholics (e.g., type 1 versus type 2, type A versus type B, primary versus secondary) do not differ in platelet MAO activity. The results suggest that decreased platelet MAO activity is not a trait marker of alcoholism or one of its subtypes; but, rather, is a state marker of cigarette smoking.

Key Words: Monoamine Oxidase, Alcoholism, Alcoholic Subtypes.