

Association between dopamine receptor D1 A-48G polymorphism and methamphetamine abuse

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摘要

Abstract

Several lines of evidence have suggested that substance abuse is mediated by the dopaminergic rewarding system, primarily through the activity of the dopamine receptor D1 (DRD1). The purpose of the present study was to evaluate the association of DRD1 A-48G polymorphism with methamphetamine (MAP) abusers and MAP-induced psychosis patients. A total of 363 MAP abusers and 425 healthy normal controls were enrolled. The structural Diagnostic Interview for Genetic Study was used to evaluate all MAP abusers. The MAP abusers were classified into psychosis (n = 135) and non-psychosis (n = 228) groups. A-48G polymorphism was determined by polymerase chain reaction-restriction fragment length polymorphism. The results show that male sex and a higher frequency of MAP abuse were the predisposing factors in the development of MAP psychosis. The DRD1 -48G allele frequency in the MAP psychosis group, non-psychosis group and the healthy normal controls was 0.14, 0.18 and 0.16, respectively. No association was found between DRD1 A-48G polymorphism and MAP abuse and MAP psychosis. However, the data provided additional evidence of ethnicity-related differences in the distribution of polymorphism in comparison to previous studies.