

COMT Val158Met and PPAR γ Pro12Ala polymorphisms and susceptibility to Alzheimer's disease: a meta-analysis.

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Abstract

The aim of this study was to explore whether the catechol-O-methyltransferase (COMT) Val158Met or the peroxisome proliferator-activated receptor-gamma (PPAR γ) Pro12Ala polymorphisms are associated with susceptibility to Alzheimer's disease (AD). We conducted a meta-analysis of the associations between the COMT Val158Met and the PPAR γ Pro12Ala polymorphisms and AD in subjects. Meta-analysis showed no association between AD and the COMT G allele in any of the study subjects [odds ratio (OR) = 0.972, 95 % confidence intervals (95 % CI) = 0.893-1.059, $p = 0.515$]. Stratification by ethnicity indicated an association between the COMT GG+GA genotype and AD in an Asian group (OR = 0.702, 95 % CI = 0.517-0.953, $p = 0.023$), but not in Europeans (OR = 1.058, 95 % CI = 0.868-1.289, $p = 0.579$). Homozygote contrast analysis showed the same pattern for the COMT GG+GA genotype. Meta-analysis showed no association between AD and the PPAR γ polymorphism (OR for the C allele = 0.963, 95 % CI = 0.818-1.134, $p = 0.649$). **This meta-analysis identified an association between AD and the COMT Val158Met polymorphism in Asians but not in Europeans**, but it revealed no association between AD and the PPAR γ Pro12Ala polymorphism.