

论著

精神分裂症患者G72基因表达水平的研究

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摘要 目的 本工作旨在检测精神分裂症 (Schizophrenia) 患者外周淋巴细胞中G72基因的表达情况, 进而探讨G72基因的表达与精神分裂症的相关关系。方法 工作在56例精神分裂症患者和84名年龄性别相匹配的对照中进行, 在新鲜外周血样本中抽提总RNA, 反转录成cDNA, 基因表达量的检测在ABI Prism7900HT型序列监测系统上进行, 采用TaqMan的方法对患者及对照组样本的mRNA进行定量, 采集的荧光数据经SDS2.1软件自动处理, 每个样本作三次平行检测, 取平均值作为该样本的最终定量。数据应用SPSS统计软件进行处理, 对组间基因表达水平的差异采用独立样本的T检验, 调用本实验室G72基因单核苷酸多态性 (SNPs) 资料, 用单因素方差分析的方法分析SNP与基因表达水平的关联性。结果 1.检测得到G72基因在对照组中的表达量为 0.0586 ± 0.0114 mol/ng cDNA, 在精神分裂症患者组中的表达量为 0.0498 ± 0.0121 mol/ng cDNA。2.经显著性检验, G72基因的表达水平在病例和对照组间差异无统计学意义, $t=-0.512$, $df138$, $P=0.609$, $95\%CI:-4.258\sim 2.506$ 。3.单因素方差分析结果显示, rs947267位置上的SNP与该基因的表达水平无相关, $F=0.355$, $df2$, $\chi^2=0.703$; 而rs2181953位置上的SNP与G72基因表达水平相关联, $F=6.275$, $df2$, $\chi^2=0.004$ 。A/A基因型的患者基因表达水平显著高于其他基因型。结论: 精神分裂症患者G72基因的表达量总体上较正常人并无显著变化, 但rs2181953位置上的基因型会影响精神分裂症患者该基因的表达。

关键词 精神分裂症 G72基因 表达量 关联

分类号

A Study of the Expression Levels of G72 Genes in the Patients with Schizophrenia

Abstract Object This work is to search the association between the expression levels of G72 gene and Schizophrenia. Methods 56 patients with Schizophrenia and 84 healthy controls were involved in this research work. Total cellular RNA was extracted from peripheral blood, then reverse transcribed into cDNA. Real-time quantitative PCR using TaqMan was performed with ABI PRISM 7900 HT(Applied Biosystems). Experiments were typically performed three time with triplicate determination and each gene expression level was determined by the average of three independent experiments. The expression difference between groups was detected by T test. Then taking two single nucleotide polymorphisms (SNPs) in G72 gene into account to analysis the relationship between the SNPs and the gene expression level in Schizophrenia patients. Results 1.In healthy controls and Schizophrenia cases, the G72 gene expression levels are 0.0586 ± 0.0114 mol/ng cDNA and 0.0498 ± 0.0121 mol/ng cDNA, respectively. 2.By statistics, the G72 gene expression have no significant difference between Schizophrenia cases and healthy controls ($t=-0.512$, $df 138$, $P=0.609$, $95\%CI:-4.258\sim 2.506$). 3. G72 expression does not associate with the SNP , rs947267($F=0.355$, $df2$, $\chi^2=0.703$). In the Schizophrenia patients with A/A genotype at rs2181953, G72 expression level is significantly higher than that of the patients with other genotypes($F=6.275$, $df2$, $\chi^2=0.004$). Conclusion Compared with healthy controls, the G72 expression level did not change significantly in Schizophrenia patients, but it seems that the genotype at rs2181953 may influence the gene expression in the patients with Schizophrenia.

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