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肌萎缩侧索硬化患者*SOD1*基因突变检测及突变与临床表型的关系

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摘要 应用PCR技术结合DNA直接测序方法对8例临床确诊为家族性肌萎缩侧索硬化(Familiar amyotrophic lateral sclerosis, FALS)家系的先证者进行铜锌超氧化物歧化酶基因(*SOD1*)的突变筛查, 在3例先证者中检出2种*SOD1*基因突变, 其中, 2例携带了位于4号外显子的错义突变Cys111Tyr(c.332G>A), 另1例携带了位于5号外显子的错义突变Gly147Asp (c.440G>A), 这2种突变在中国ALS患者中属首次报道。该结果扩大了中国FALS患者的*SOD1*基因突变谱, 对研究中国FALS患者SOD1基因突变特点和分布规律有一定帮助。分析携带这2个突变患者的临床特点, 提示Cys111Tyr突变导致的临床表型相对温和, 而Gly147Asp突变可导致病情进展较快。该结果有待在更多的病例中进行证实。

关键词： 肌萎缩侧索硬化 *SOD1*基因 突变

Abstract： In this study, we screened for the Cu/Zn superoxide dismutase (*SOD1*) mutations in 8 probands who had been clinically diagnosed with familiar amyotrophic lateral sclerosis (FALS) using PCR and direct sequencing. Two known mu-tations were detected in the three probands. Two probands carried the same Cys111Tyr (c.332G>A) mutation in exon 4, and others carried Gly147Asp (c.440G>A) mutation in exon 5. These two mutations were first reported in the Chinese ALS patients. After reviewing all clinical data of these three pedigrees, we found that Cys111Tyr led to a relatively mild pheno-type and Gly147Asp displayed a rapidly progression, which needs to be confirmed by further study in more ALS patients. In conclusion, this study extends the spectrum of *SOD1* mutations in the Chinese FALS patients and facilitates to investigate characteristics and distribution of *SOD1* mutations in the Chinese population.

Keywords： amyotrophic lateral sclerosis, *SOD1* gene, mutation

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