

[1]李华英 王川 周开宇 刘兴会 谢亮 华益民.基因多态性对人胎盘ABCG2基因mRNA及其蛋白表达的影响[J/CD].中华妇幼临床医学杂志(电子版),2014,(03):290-295.

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基因多态性对人胎盘ABCG2基因mRNA及其蛋白表达的影响

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Title: Effects of Genetic Polymorphisms on the Expression of mRNA and Protein of Gene in Human Placenta

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关键词: ABCG2蛋白; 人类; 多态现象; 单核苷酸; 胎盘

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摘要: 目的 评估单核苷酸多态位点对人胎盘 基因mRNA及蛋白表达的影响。 方法 选择2013年3月至5月在四川大学华西第二医院产科待产分娩的46例汉族正常孕产妇及新生儿为研究对象, 收集其胎盘及脐带标本(本研究遵循的程序符合四川大学华西第二医院人体试验委员会制定的伦理学标准, 得到该委员会批准, 获得胎盘及脐带标本时均取得产妇及家属的知情同意, 并为之签署临床研究知情同意书)。其中, 脐带标本用于胎儿DNA的提取, 胎盘标本用于 基因的RNA及蛋白提取; 通过测序确定 基因421C>A及34G>A多态位点的基因型; 分别通过实时荧光定量(RT) PCR及Western blotting法获得 基因的mRNA及蛋白表达情况。对 基因421C>A及34G>A多态位点不同基因型之间mRNA及蛋白相对表达量进行比较。 基因421C>A及34G>A多态位点不同基因型之间孕产妇及新生儿一般临床资料比较, 差异均无统计学意义(P >0.05)。 结果 对于 421C>A 多态位点, 携带CC、CA、AA各基因型的胎盘标本的平均mRNA及蛋白表达水平比较, 其差异均无统计学意义(F =1.060, 3.051; P >0.05); 对于34G>A多态位点, 携带GG基因型的胎盘标本平均mRNA及蛋白表达水平较携带AA基因型的胎盘标本高, 且差异均有统计学意义(q =3.540, 4.720; P <0.05), 而携带GA基因型的胎盘标本, 其平均mRNA及蛋白表达水平分别与携带其他2种基因型的胎盘标本比较, 其差

异均无统计学意义 ($P > 0.05$)。结论 421C>A 多态位点对人胎盘 基因mRNA及蛋白的表达无影响, 而34G>A多态位点对人胎盘 基因mRNA及ABCG2蛋白 (BCRP) 的表达均有影响。

Abstract: Objective To evaluate the effects of mononucleotide polymorphisms on the mRNA and protein expression of gene in human placenta. Methods From March to May 2013, a total of 46 healthy Han Chinese pregnant women and their newborns were selected as study subjects from the Department of Obstetrics and Gynecology in West China Second University Hospital, Sichuan University. Their placentas and umbilical cords were consecutively collected. The study protocol was approved by the Ethical Review Board of Investigation in Human Being of West China Second University Hospital, Sichuan University. Informed consents were obtained from all participants. Fetal DNA were extracted from the umbilical cords, RNA and protein of gene were extracted from the placental tissue. Genotypes of the gene 421C>A and 34G>A polymorphism were performed by sequencing. The expression of gene mRNA and protein in the placenta were determined by real time(RT) PCR and Western blotting. The comparisons of mRNA and protein expression were performed among different genotypes of 421C>A and 34G>A polymorphism of gene. The general clinical data of pregnant women and neonates among different genotypes had no significant differences ($P > 0.05$). Results The mean gene mRNA and protein expression had no significant differences among CC, CA and AA genotypes of 421C>A polymorphism ($F = 1.060, 3.051$; $P > 0.05$); however, for 34G>A polymorphism, the mean gene mRNA and protein expression of GG genotype were significantly higher than those of AA genotype ($q = 3.540, 4.720$; $P < 0.05$), while for the samples carrying GA genotype, had no significant difference compared with other two genotypes ($P > 0.05$), respectively. Conclusions The 421C>A polymorphism has no impacted on the expression of mRNA and protein of the gene in human placenta, while the 34G>A polymorphism has effected on both of them.

参考文献/REFERENCES

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