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Document Title : *Relationship ofIeotin Receptor Gln 223 Arg Variant With Obesity In Saudi Women And Diabetic Patients*

علاقة طفرة مستقبل هرمون الليبتين بالسمنة لدى النساء السعوديات الأصحاء ومرضى السكر من النوع الثاني

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Abstract : Genetics variation at the leptin receptor gene locus may contribute to a common form of obesity and, as a consequence, obesity-related diseases such as type II diabetes mellitus. Previous studies exploring potential associations between leptin receptor gene polymorphisms and obesity have reported conflicting results. The aim of this study was to evaluate a genetically homogeneous population for associations between obesity, type II diabetes and a common leptin receptor gene polymorphism (Gln223Arg). One hundred and sixty five women (25 normal weights, 65 obese non-diabetic and 75 obese diabetic) were genotyped for the polymorphism. Allele frequencies were estimated by the gene-counting method and genotype distributions between obese non-diabetic and obese diabetic subjects were compared using Chi-square test. Genotype analysis of normal weight, obese non-diabetic and obese diabetic revealed that the polymorphism seemed mainly confined to the last two groups of the cohort. The allele frequency for the polymorphism Gln223Arg had a frequency of 0.09 in obese non-diabetic and 0.13 in obese diabetic women. In both obese non-diabetic and obese diabetic subjects, genotype distribution differ significantly from those expected under Hardy-Weinberg equilibrium conditions (obese non-diabetic, ?2 =45.3, P =0.0005; obese diabetic, ?2=7.4, P =0.02). In addition, there was no significant difference in the genetic distribution for Gln223Arg polymorphism between obese non-diabetic and obese diabetic women (?2=2.8, P =0.2). These findings support the hypothesis that the Gln223Arg polymorphism of the leptin receptor gene is associated with obesity and type II diabetes in Saudi women. To the best of our knowledge, the present results are the first report about frequencies of the leptin receptor gene polymorphism in genetically homogeneous Saudi population.

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