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Association analysis of VDBP gene polymorphism in Lebanese patients with chronic obstructive pulmonary disease

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Chronic Obstructive Pulmonary Disease (COPD) can be considered as complex disorder which is mediated by interaction between the genes and environment factors. It has been characterized by a slowly progressive irreversible airflow obstruction which is due to peripheral airway inflammation and loss of lung elastic recoil resulting from parenchymal destruction. COPD is rapidly becoming a global public health. It currently focus on intense research because of its persistently increasing prevalence, mortality, and disease burden. Many studies showed that genetic factors are likely to have a role in the determination of individual susceptibility to COPD. Polymorphism of several candidate genes has been examined in relationship to COPD development. One of the candidates is the gene encoding the group-specific component of serum globulin (GC-globulin), called GC protein, a Vitamin D-binding protein (VDBP). The aim of the study was to investigate the allele and genotype frequencies of *VDBP* gene polymorphism in exon 11 and the association of this polymorphism with the development of COPD in Lebanese patients. Genotyping of GC variant SNPs in the *VDBP* gene was performed in 50 COPD patients and 50 control subjects. Genomic DNA was extracted from venous blood samples, quantified and subjected to polymerase chain reaction and restriction fragment length polymorphism (PCR-RFLP) using specific primers and HaeIII enzyme. SPSS program was used for statistical analysis. GC1F allele in VDBP was 56% and 33% in COPD patients and control subjects respectively. While GC1S allele was 30% and 55% in COPD and control respectively. 1S-1S GC genotype was suggested to be protective against COPD and 1F-1F genotype was suggested to be risk factor for COPD.This study showed an association between GC 1F-1F genotype and COPD in Lebanese population.

Biography

Rajaa Fakhoury has completed her PhD from Department of Rheumatology, Manchester University Medical School, and Postdoctoral studies from the same university, Department of Integrated Genomic Medical Research. She is the Dean of the Faculty of Health Sciences, Beirut Arab University. She has published more than 30 papers in this field.

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