

Role of Apolipoprotein E Polymorphism on the Onset of Inflammatory Bowel Disease in Saudi Patients

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Abstract : Objective: The objective of this study was to evaluate the role of apolipoprotein E (APOE) polymorphism on the onset of inflammatory bowel disease (IBD) in Saudi patients. Methods: APOE gene was genotyped to evaluate the frequencies of the alleles and genotypes in Saudi subjects, including IBD patients (n=200) and matched controls (n=200), using APOE StripAssay™ kit (ViennaLab Labordiagnostika GmbH, Vienna, Austria). Results: The frequencies of alleles and genotypes of APOE differed in patients and controls. The APOE allele $\epsilon 2$ and $\epsilon 4$, genotype $\epsilon 2/\epsilon 3$ and $\epsilon 2/\epsilon 4$ were significantly higher in the IBD patients than the healthy controls. The frequencies of $\epsilon 3$ allele and $\epsilon 3/\epsilon 3$ genotype were higher in the control group as compared to patients. The higher prevalence of allele $\epsilon 2$ and $\epsilon 4$ allele in patients compared to that in controls suggested that $\epsilon 2$ and $\epsilon 4$ alleles may increase the risk of IBD. Results also indicated that APOE $\epsilon 4$ allele was associated with early age at onset of IBD. On the other hand, the decreased frequencies of $\epsilon 3$ allele and $\epsilon 3/\epsilon 3$ genotype in patients as compared to those in the controls suggested a protective effect of APOE $\epsilon 3$ for IBD susceptibility. In this study, the frequency distribution of APOE alleles and genotypes was not affected by the gender or type of IBD (familial or sporadic). Conclusion: This study indicates that APOE polymorphism plays a significant role in developing IBD and early age of onset in Saudi patients. However, further studies with large-size sample are warranted to confirm this relationship.

Keywords : APOE, polymorphism, IBD, Saudis

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