Cytokine genes polymorphisms in Saudi patients with atopic dermatitis: A case control study

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Atopic dermatitis (AD) is a chronic inflammatory skin disease characterized by pruritic and eczematous skin lesions. The etiology of AD is multifactorial involving genetic as well as environmental factors and several candidate genes including cytokines have been suggested to play a central role. In this study, single nucleotide polymorphisms in TNF-α and β at positions -308 and +252 and IL-10 at positions -592, -819 and -1082 were evaluated in 315 subjects including 104 patients with AD and 211 controls using amplification refractory mutation systems (ARMS)-PCR methodology. The frequency of genotype GA was significantly higher in AD patients than control (P=0.02) while that of GG was lower in AD but the difference was not statistically significant (P=0.33). Genotype AA was completely absent in AD patients whereas it was present in 7.11% of the controls (P<0.01). The frequencies of GG and AA genotypes of TNF-β (+252A/G) were significantly higher in patients group than controls (P=0.02) while genotypes GA was significantly lower in AD patients than controls (P<0.01). The frequencies of genotypes of GG and AA of IL-10 (-1082G/A) were significantly higher in AD patients than the controls (P<0.01, P=0.02) whereas that of GA genotype was significantly lower in patients. The frequencies of alleles and genotypes of IL-10 (-819C/T), IL-10 (-592C/A) did not differ significantly between two groups. It is concluded that TNF-α (-308G/A), TNF-β (+252A/G) and IL-10 (-1082G/A) polymorphisms are associated with the susceptibility of AD and can be risk factors in Saudis.

Biography
Abdulrahman Al-Asmari has completed his PhD in Biochemistry from London, UK. He is the Director of Skin Care Research Center, Riyadh, Saudi Arabia. He has published more than 70 papers in reputed journals and has been serving as an Editorial Board Member. He is associated with several ongoing projects on genetic basis of diseases in Saudis.

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