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Genetic studies on atopic dermatitis: Role of TNF-α and -β genes promoter polymorphisms

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The immunopathogenesis of atopic dermatitis (AD) is a very complex process that involves an array of molecules but it is evident that cytokines play a key role in the development of the clinical presentation of AD. The role of tumor necrosis factor (TNF) is a subject of recent interest in AD. This study was undertaken to determine the association of TNF-α (-308) and TNF-β (+252) gene polymorphisms with AD. TNF-α and-β genes were amplified in 104 AD patients and 211 matched controls using amplification refractory mutation systems (ARMS)-PCR methodology to determine the allele/genotype frequencies. The frequency of GA (TNF-308) genotype was significantly higher while the frequency of GG (TNF-α-308) genotype was lower in patients as compared to controls. It was inferred that genotype GA (TNF-α-308) was susceptible while genotype GG might be protective to AD. The frequency of GG at position +252 of intron 1 in TNF-β was significantly higher in patients as compared to controls while GA genotype was significantly lower in patients indicating that GG genotype of TNF- β (+ 252) might exert additive susceptibility to AD while GA might be refractory. In conclusion TNF-α (308) and TNF-β (+252) polymorphisms are significantly associated with the susceptibility to AD in Saudis and could be used as a genetic marker for disease mapping.

Biography

Ghaleb Bin Horaib has completed his PhD in Dermatological and Venereal Diseases from University of Fribourg, Germany. He did his MBBS from King Saud University of Riyadh, Saudi Arabia. He is the Deputy Director General of Medical Services in the Armed Forces, Ministry of Defense, Riyadh, Saudi Arabia. He has published 10 papers in reputed journals. He is associated with several ongoing projects on genetic basis of dermatological diseases in Saudis.

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