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Association of inducible nitric oxide synthase (iNOS) gene promoter polymorphism with vitiligo susceptibility in Saudis

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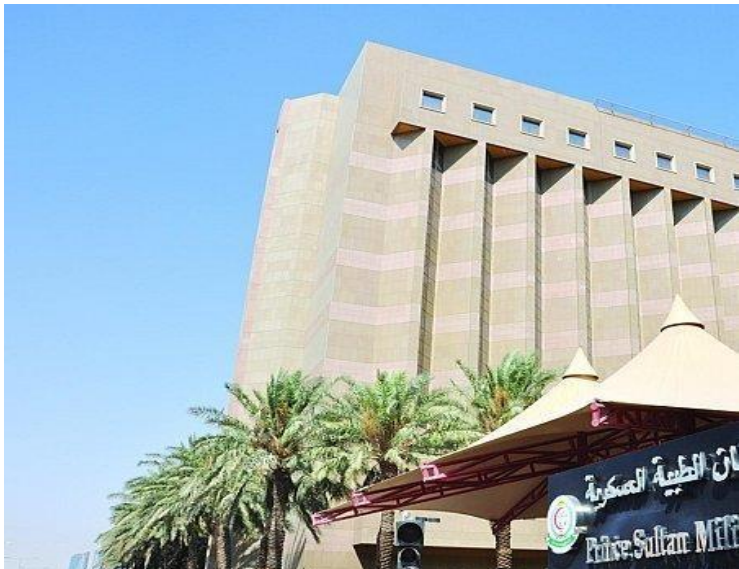
Abstract:

Vitiligo is an acquired, immune system skin issue described by melanocyte misfortune coming about into dynamic depigmentation of skin and hair. Vitiligo commonly shows familial aggregation and multifactorial mode of inheritance. It is a polygenic disease and several genes related to oxidative stress have been associated with the pathogenesis of vitiligo. The present study was aimed to investigate any possible association of inducible nitric oxide synthase (iNOS) gene polymorphisms (iNOS 954 G/C and iNOS Ex16+14 C/T) with vitiligo in Saudis. This study includes 120 vitiligo cases and 120 healthy matched controls. Polymerase chain reaction with restriction fragment length polymorphism method was used for the analysis of genetic polymorphisms. The heterozygous genotype GC and variant allele-C of iNOS-954 G/C was significantly increased in vitiligo patients (p = 0.001), while the frequency of genotype GG was higher in controls. The frequencies of alleles and genotypes of iNOS-Ex16+14 polymorphism did not differ significantly in patient and control groups. However, when genotype GC of iNOS-954 was co-inherited with genotype CT of iNOS-Ex16+14 C/T, the significant association was observed with vitiligo (p = 0.001). Stratification of genotype and allele frequencies of iNOS-954 G/C and iNOS-EX16+14 C/T between males and females yielded no significant differences. These results indicated that iNOS-954-G/C polymorphism is significantly associated with vitiligo and could be considered as a genetic risk factor for vitiligo susceptibility in Saudis. However, additional studies are warranted using a large number of samples from different ethnicity and geographical areas to strengthen this.



Biography:

Al-Asmari A has completed his Ph.D. in 1996 from the University of London, London, UK. Earlier he received MPhil (Biochemistry) from London, UK. He is the director of the Scientific Research Center, MSD Riyadh, Saudi Arabia. He has over 100 publications that have been cited several times. He has been serving as an editorial board member of various journals.

Speaker Publications:

1. "The Protein Tyrosine Phosphatase Non-Receptor Type 22 (PTPN22) Gene Polymorphism and Susceptibility to Autoimmune Diseases"; February

2020 DOI: 10.5772/intechopen.90836.In book: Genetic Polymorphisms (pp.1-43); Publisher: IntechOpen

2. "Association of Functional Polymorphism in Protein Tyrosine Phosphatase Nonreceptor 22 (PTPN22) Gene with Vitiligo"; Biomarker insights, January 2020, 15:117727192090303,
DOI: 10.1177/1177271920903038

3. "The Protein Tyrosine Phosphatase Non-Receptor Type 22 (PTPN22) Gene Polymorphism and Susceptibility to Autoimmune Diseases";
In book: Genetic Polymorphisms , January 2020, DOI: 10.5772/intechopen.90836,

4. "Methylenetetrahydrofolate Reductase C677T Gene Polymorphism as Risk Factor for Psoriasis in Saudis"; Biomarker insights 14: 117727191983097, February 2019, DOI: 10.1177/1177271919830973

5. "Tumor necrosis factor-α and -β genetic polymorphisms as a risk factor in Saudi patients with schizophrenia"; Neuropsychiatric Disease and Treatment 13:1081-1088, April 2017,
DOI: 10.2147/NDT.S131144,

2nd International Conference on Dermatology, Pathology and Cosmetology, April 01-02, 2020 Webinar.

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