

9TH CLINICAL DERMATOLOGY CONGRESS & 2nd International Conference on PSORIASIS, PSORIATIC ARTHRITIS & SKIN INFECTIONS

October 16-18, 2017 New York, USA

Proinflammatory cytokine TNF- α gene promoter -308 and -238 polymorphism: A study on psoriasis in north Indian population

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Statement of the Problem: Tumor Necrosis Factor - α (TNF- α) is an important proinflammatory cytokine playing role in the pathogenesis of psoriasis. The aim of the present study was to investigate the role of TNF- α -308G/A and TNF- α -238G/A polymorphic sites of TNF- α gene, haplotype and serum level in the pathogenesis of psoriasis.

Methodology & Theoretical Observation: 200 psoriatic patients and 200 controls were genotyped for TNF- α -308 G/A and TNF- α -238G/A polymorphism by polymerase chain reaction. Serum levels of TNF- α were measured by ELISA.

Findings: Our results demonstrated that polymorphism of TNF- α -308 was found to be in association with decreased risk of psoriasis OR = 0.29; (95% CI = 0.14 – 0.62) and that of TNF- α -238 polymorphism is associated with increased risk of psoriasis OR = 37.81; (95% CI = 12.77 -112.01). HT2 GA haplotype is associated with increased risk of psoriasis. Serum TNF- α level increased in patients, as compare to controls with significant correlation between serum TNF- α and psoriasis severity.

Conclusion & Significance: These findings suggest that TNF- α polymorphism imparted significant risk towards the development of psoriasis in North Indian population. Highlighting the role of cytokines in the pathogenesis of psoriasis is important for the creation of database, maintenance and resolution of lesions. So anti TNF therapy may be helpful in controlling pathogenesis of psoriasis.

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