

## البحث الخامس

### IMPACT OF IL-8 GENE PROMOTER POLYMORPHISM 251T>A IN FAMILY HISTORY AND SEVERITY OF ACNE VALVARIS IN EGYPTIAN PATIENT

Acne vulgaris (AV) is a common multifactorial inflammatory disease of the pilosebaceous unit (PSU) affecting >80% of individuals at some time during their lives. Endogenous as well as exogenous factors underlie the pathogenesis of AV. Genome-wide association studies have shown that genetic factors play an important role in the aetiology and pathogenesis of AV. IL-8 induces chemotaxis in target cells, primarily neutrophils but also other granulocytes, causing them to migrate toward the site of infection, IL-8 also induces phagocytosis once they have arrived.

**Aim of the work:** This study aimed to detect the functional relationship of IL-8 gene polymorphism with AV and its severity, by detection the association of IL-8-251T>A polymorphism with AV in Egyptian population.

**Patient and Methods:** A total of 200 subjects were analyzed in this case control study. They were divided into two groups: 100 patients with different degrees of AV, and 100 subjects healthy controls. The diagnosis of acne was based on physical examination, and Global Acne Grading System. The genotyping for IL-8 gene was performed by polymerase chain reaction (PCR) and restriction fragment length polymorphism (RFLP).

**Results:** Our study showed that AA genotype (mutant genotype) was higher among cases, while TT genotype (wild genotype) was higher among controls with  $p < 0.05$ . Higher percentage of A- allele (58%) was found among cases, and higher percentage of T- allele (63%) was found among controls with  $p < 0.05$ . Also our study found that AA genotype was significantly higher among patients with positive family history while TT genotype was significantly higher among patients with negative family history with  $p = 0.001$ . And as regards degree of disease severity, higher percentage of severe acne had AA genotype but higher percentage of mild acne had TT genotype with  $p < 0.05$ . **Conclusion:** Our study revealed that there is a significant link between IL-8-251T>A single nucleotide polymorphism (SNP) and AV incidence and severity.

**KEYWORDS:** Acne vulgaris – Interleukin-8 – Polymorphism