

## The Investigation of Obesity Susceptibility with IL-4 Gene Intron 3 VNTR and IL-6 Gene -597G/A Polymorphisms in a Turkish Population

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**ABSTRACT** Obesity results in a proinflammatory state starting within the metabolic cells as adipocyte, monocyte. The bioactive system, including cytokines as IL-4 and IL-6, contributes to the pathogenesis of conditions associated with obesity and favors inflammation. This study aimed to investigate the role of *IL-4* gene intron 3 VNTR and *IL-6* gene -597G/A polymorphisms in the pathogenesis of obesity. The study included 127 patients with obesity (BMI>30kg/m<sup>2</sup>) and 110 healthy controls. Genomic DNA was isolated and genotyped using polymerase chain reaction (PCR) followed by restriction fragment length polymorphism (RFLP) analysis for *IL-4* gene and *IL-6* gene polymorphisms. There was no statistical significant difference in the allele and genotype frequencies of both genes polymorphism in obesity patients and control groups (p>0.05). Additionally, there was no statistical significant difference in the combine genotype analysis of *IL-4* gene intron 3 VNTR and *IL-6* gene -597G/A polymorphism (p>0.05). These findings showed that there are not any associations of *IL-4* gene intron 3 VNTR and *IL-6* gene -597G/A polymorphisms with susceptibility of a person for development of obesity. This is the first report that investigates the relationships between susceptibility of obesity and *IL-4* gene intron 3 VNTR, *IL-6* gene -597G/A polymorphisms.