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The rs2167270 polymorphism of leptin gene is associated with atopic dermatitis

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Abstract: Atopic dermatitis is a chronic inflammatory skin disease that arises because of complex environmental, immunological, and genetic interactions. Adipokines are bioactive mediators secreted from adipocytes of white adipose tissue and are known to have a role in body metabolism and regulation of immune responses. Leptin is a proinflammatory adipokine that functions mainly to regulate food intake and energy expenditure. Few studies have implicated adipokines in the pathogenesis of atopic dermatitis. In this study, we investigated the association of three leptin gene polymorphisms: ?2548G>A (rs7799039), ?188 C/A (rs791620), and A19G (rs2167270), with the incidence of atopic dermatitis. One hundred and sixty-four patients and one hundred and sixty-seven age- and gender-matched controls were genotyped using the polymerase chain reaction-restriction fragment length polymorphism procedure. A significant association was found between rs2167270 and the incidence of atopic dermatitis ($P < 0.05$). The GG allele was more prevalent in the patients' group with genotype frequency of 38.7%, compared to 26.1% for the control group. No significant differences were found in the genotype distribution or allelic frequency of the other two examined polymorphisms, rs7799039 and rs791620, between atopic dermatitis patients and controls ($P > 0.05$). The results suggest that rs2167270 might play a role in the pathogenesis of atopic dermatitis.