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CCL4L polymorphisms and serum levels are associated with psoriasis severity

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Psoriasis is a common inflammatory skin disease with key immunological and genetic components.

Recruitment of leukocytes into the skin is a central step in its pathogenesis, and it is mediated by cytokines. Among the cytokines expressed in psoriatic lesions, CCL4 and CCL4L chemokines appear to be pivotal elements for the skin recruitment of proinflammatory cells. The aim of this study is to evaluate the relationship between *CCL4L* polymorphisms [including Single Nucleotide Polymorphisms (SNPs) and Copy Number Variation (CNV)] and the course and prognosis of psoriasis. We analyzed the CNV and the rs4796195 SNP in 211 psoriatic patients and 234 controls; sera from both populations were also quantified for CCL4/CCL4L protein. Our results showed that a high CNV (≥3 copies) is associated with psoriasis severity, while moderate disease is more frequent in patients with lower CNV (≤2 copies); specifically CCL4L1 allele is more present in patients with severe psoriasis, while CCL4L2 correlates with a milder disease. In addition we found a positive correlation between the CNV and sera protein levels.

Our results suggest that *CCL4L* genotyping could not only allow a better understanding of the psoriatic pathogenesis, but could also be used as a prognostic tool, even helping to modulate the efficacy of treatments.

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