عنوان مقاله:

IRF۷ and STAT۱ gene expression profile in peripheral blood mononuclear cells of patients with systemic sclerosis

محل انتشار:

فصلنامه تحقیقات روماتولوژی, دوره 5, شماره 3 (سال: 1399)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

The critical role of IFN signature genes has increasingly been surveyed to determine the etiology and pathogenesis of systemicsclerosis (SSc). Interferon-regulatory factors (IRFs) and signal transducers and activators of transcription (STATs) are mainlyconsidered as transcriptional modulators of IFN-signature genes and type I interferon and play a major role in the regulation ofnumerous aspects of an immune response. The current study aimed to assess the transcriptional levels of IRF۷ (interferonregulatory factor ۷) and STAT۱ (signal transducers and activators of transcription ۱) mRNAs in PBMCs of scleroderma patientsand compare them with those of healthy subjects.In this study, PBMCs were obtained from ۵۰ scleroderma patients and ۳۰ healthy individuals. Subsequently, total RNA wasextracted from isolated PBMCs and cDNA synthesis was carried out. IRF۷ and STAT۱ mRNA expressions were assessed byapplying quantitative real-time PCR, SYBR Green method, and specific primers for IRF۷ and STAT۱.Relative expression of IRF۷ was significantly increased in the patient group compared with the control group. Moreover, relativeexpression of IRF۷ in limited SSc (lSSc) and diffuse SSc (dSSc) was significantly increased compared with healthy subjects ($p < 0.05$). The relative expression of STAT۱ transcripts in PBMCs was not statistically significantly different between the patientgroup and the control group. The correlation between IRF۷ expression and the Rodnan score (RS) of the disease was significant.Considering the overexpression of IRF۷ in SSc patients and significant correlation between the IRF۷ and the Rodnan score ofthe disease, it is suggested that impaired expression of IRF۷ is involved in the pathogenesis of SSc.