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LETTER TO THE EDITOR

Letter to Editor: Serum interleukin-37 level and interleukin-37 gene polymorphism in patients with Behçet disease

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To the Editor,

Behcet's disease (BD) is a chronic complex inflammatory disease. It is characterized by recurrent episodes of oral aphthous ulcers, genital ulcers, skin lesions, and ocular lesions. To date, the clear pathogenesis of BD has not been clearly elucidated. However, immunological aberrations and genetic factors may play important roles in the development and progression of BD [1].

Recently, a study published in Clin Rheumatol by Özgüçlü et al. has attracted us much interest, where the authors found that serum levels of IL-37 were not strongly different in BD patients and healthy controls, and serum concentrations of IL-37 were not related to disease activity [2]. Moreover, IL-37 gene polymorphism (rs3811047) was not related to BD risk, by which the allele frequency and genotype frequencies were not significantly different between patients and healthy controls [2]. The data indicated that IL-37 may not correlate with BD pathogenesis.

To date, available evidence discussed the relationship between IL-37 and BD was inconsistent [2–5]. Ye et al. revealed that IL-37 mRNA expression, protein expression in peripheral blood mononuclear cells (PBMCs) of active BD patients was strongly reduced as compared to healthy controls [3]. Monocytes-induced dendritic cells from patients stimulated with IL-37 revealed a reduced expression of IL-6, IL-1β, and TNF-α. IL-37 stimulation strongly suppressed T helper 17 (Th17) and Th1 cells differentiation [3]. Interestingly, another study reported that active BD patients had reduced IL-37 expression, elevated IL-1β, IL-6, TNF-α levels in serum and in PBMCs. IL-37 treatment on PBMCs decreased the generation of IL-1β, IL-6, and TNF-α [4]. Furthermore, Tan et al. revealed that frequency of AG genotype in IL-37 gene rs3811047 polymorphism from BD patients was significantly lower when compared to that in healthy controls, and frequencies of GG genotype and G allele of rs3811047 were significantly higher in BD patients as compared to controls. Functional analysis demonstrated that rs3811047 AG genotype carriers had a higher IL-37 gene expression in PBMCs than GG carriers [5]. Together, these data suggested that IL-37 expression was downregulated in BD patients, may play an inhibitive role in immunity, and rs3811047 polymorphism may relate to BD risk.

Therefore, whether IL-37 expression was abnormal in BD patients is still needed to be discussed in the future with a large sample size and different ethnicities. In addition, there is a long way to determine whether IL-37 gene polymorphism is related to BD susceptibility.

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Compliance with ethical standards

Competing financial interests No competing interests exist.

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