

JOURNAL HIGHLIGHTS

Dupilumab: a revolutionary emerging drug in atopic dermatitis and its possible role in pemphigus

KEYWORDS: atopic dermatitis, dupilumab, pemphigus

Atopic dermatitis (AD) is a chronic inflammatory skin condition with a worldwide prevalence up to 20% of children and 3% of adults. It seems that in both of AD and pemphigus, which is an autoimmune blistering disease, T helper type 2 cells and associated cytokines are responsible to disease development.

Recently, dupilumab was introduced as a revolutionary new drug to treat moderate to severe AD. It is a fully human monoclonal antibody, which is directed against the interleukin (IL)–4 receptor- α that blocks IL-4 related to IL-13 signaling. The first evidence of efficiency of dupilumab in AD patients was revealed by Beck et al. (1) in 2014. They performed a randomized, double-blind, placebo-controlled trials, during 4 and 12 weeks treatment with dupilumab. In the overall, favorable outcome in terms of efficacy and safety was observed. Furthermore, the rate of infection in dupilumab group was lower compared to the placebo group. Subsequently, Hamilton et al. (2) tried to evaluate dupilumab on transcriptomic analyses. It was observed that dupilumab improved the AD signature in a dose-dependent manner. As the last study associated with using dupilumab in AD patients, including 380 patients, Thaçi et al. (3) showed the efficacy of dupilumab, which confirmed the results of the first study (1). Similar to Beck et al. (1),

lower infection in dupilumab group was observed than the placebo group.

Considering the ability of dupilumab in inhibition of IL-4 receptor and the critical role of IL-4 in patients with pemphigus that was recently discussed by author (4), it is suggested that dupilumab can be a possible effective treatment in pemphigus patients. Although there is no clinical trial on the role of dupilumab, in theory, it is a promising treatment of pemphigus. Thus, further studies and clinical trials associated with using dupilumab in pemphigus to evaluation the efficiency of this new emerged drug are recommended.

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