Background: Idiopathic inflammatory myopathies (IIM) are featured by a series of clinical presentation such as proximal muscle weakness, increased serum levels of creatine kinase and other muscle enzymes and involvement of other organs and systems[1, 2], which results in high morbidity and early mortality[3]. We have known the changes of the level of Th17 and Treg cells, the proportion of Th17 and Treg cells and the ratio of Th17/Treg was observed after receiving treatment with low-dose IL-2. Furthermore, the restoration of lymphocyte subsets showed similar degree after treatment with or without immunosuppressants. Low-dose IL-2 may become a potential therapy for IIM patients. The mechanism of lymphocyte decrease in IIM is required further to study.

Results: In these patients, especially in the infection group, the absolute number of B, CD4+ T, CD8+ T, NK, Th1, Th2, Th17 and Treg cell subsets were significantly decreased as compared with that in the healthy controls, which were significantly increased by low dose IL-2 (especially Treg cells) treatment. The levels of ESR, LDH and HBSD and the ratio of Th17/Treg were significantly lower than those before IL-2 treatment (Z=-2.237, -2.083, -2.140, -3.663, Z=0.025, 0.037, 0.032, 0.000). The 48 cases who received IL-2 treatment were divided into 2 groups according to whether they used immunosuppressants. There was no significant difference in the absolute number of T, B, CD4+ T, CD8+ T, Th1, Th2, Th17 and Treg cells, the proportion of Th17 and Treg cells and the ratio of Th17/Treg between the 2 groups (P>0.05).

Conclusion: Global decrease in lymphocyte subsets was found in IIM patients, especially those who had important organ infection. A significant re-balance of Th17/Treg was observed after receiving treatment with low-dose IL-2. Furthermore, the restoration of lymphocyte subsets showed similar degree of treatment with or without immunosuppressants. Low-dose IL-2 may become a potential therapy for IIM patients. The mechanism of lymphocyte decrease in IIM is required further to study.

References:

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