Effect of methylprednisolone on serum IL-18 and IL-33 levels in patients with asthma

WANG Hai-rong
(Worker's Hospital of Xianggang Company of Iron and Steel Group in Hebei Province, 075100)

[Foundation Project]: Advanced science and technology project of Zhangjiakou City (grant No. jh118 2011-03)

[Author]: WANG Hai-rong (1972 -), Female, M. B., Associate chief physician, Tel: 13831320180, E-mail: wanghr1972@163.com.

Received: 2014-11-18 Revised: 2014-11-25

JHMC, 2015; 21(2): 172-174

View from specialist: It is creative, and of certain scientific and educational value.

[ABSTRACT] Objective: To observe the role of IL-18 and IL-33 levels in the process of asthma attack, and to evaluate the effects of methylprednisolone on IL-18 and IL-33 levels. Methods: Thirty patients with acute bronchial asthma that were admitted to our hospital were enrolled as observation group (n=30 cases) and were given 40~80 mg/d methylprednisolone for 3-5 days, combing with supplemental local aerosol inhalation for 1 to 2 weeks. When the disease was under control, ELISA was used to recheck the levels of peripheral serum IL-18, IL-33, and IgE, and the changes in blood routine test results. 30 cases were also enrolled as control group. Results: Serum IL-18, IL-33, IgE, and EOS levels were significantly higher than that of the control group (P<0.05). During remission stage, serum IL-18, IL-33, IgE, and EOS levels of the observation group were significantly lower than that before treatment (P<0.05). The levels of serum IL-18, IL-33, and IgE in the observation group at the remission stage were not statistically different from those in the control group (P>0.05), the levels of WBC, N, EOS were significantly higher than those in the control group (P<0.05). Conclusions: It can be concluded that IL-18 and IL-33 play a synergistically pro-inflammatory role in the process of bronchial asthma attack, systemic application of glucocorticoid can effectively reduce the production of IL-18 and IL-33 in the bronchial asthma patients and improve their asthma status.

[KEY WORDS] Methylprednisolone, Bronchial asthma, IL-18, IL-33