

Journal club

Lebrikizumab may benefit a subset of patients with asthma

Interleukin 13 (IL-13), a cytokine of type 2 helper T cells, may contribute to the heterogeneity of asthma in terms of clinical course and response to treatment. IL-13 leads to the production of periostin, a protein that may cause airway remodelling.

In this randomised, double-blind, placebo-controlled study, lebrikizumab, a monoclonal antibody that binds to IL-13 thereby inhibiting its function, was used to investigate the effect on patients with uncontrolled asthma undergoing treatment with inhaled steroids. Lebrikizumab showed superior primary outcome to placebo, with an increase in pre-bronchodilator forced expiratory volume in one second (FEV₁) by 5.5% at week 12. Patients with higher periostin levels had a relative increase in FEV₁ of 8.2% compared with those receiving placebo, whereas the low periostin group had a relative increase in FEV₁ of 1.6% over the placebo group. There was no significant improvement in secondary outcomes including rates of asthma exacerbation, asthma symptom scores or use of rescue medications. The secondary outcome results may have been limited by the study length of 24 weeks. There was definitely a percentage decline in exacerbation rates in the lebrikizumab group in patients with high Th2, periostin and fraction of exhaled nitric oxide values but these were not statistically significant.

This study shows the potential use of biomarkers to target specific patients with asthma who would benefit from treatment. Further multicentre studies using larger numbers of patients over a greater time period should be conducted to confirm and expand on the results of the current study.

► **Corren J**, Lemanske RF, Hanania NA, *et al*. Lebrikizumab treatment in adults with asthma. *N Engl J Med* 2011;**365**:1088–98.

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