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Lung alert

Step-up treatment for children with uncontrolled asthma

Uncontrolled asthma can occur in children receiving low dose inhaled corticosteroids, but evidence to guide step-up treatment is currently lacking. In this study, 182 children (6—17 years of age) with uncontrolled asthma on 100 μg of fluticasone twice daily were randomly assigned to receive each of three blinded step-up treatments in a random order for a total of 48 weeks. During each 16 week period patients received: 100 μg of fluticasone plus 50 μg of the long-acting β-agonist salmeterol twice daily (LABA step-up), 250 μg of fluticasone twice daily (ICS step-up) or 100 μg of fluticasone twice daily plus 5 or 10 mg of the leukotriene receptor anatagonist montelukast once daily (LTRA step-up).

A differential response to each of the three treatments was determined using three asthma control measures: use of oral prednisolone in acute exacerbations, number of asthma control days and forced expiratory volume in 1 s (FEV_1). The ability of prespecified baseline covariates to predict patterns of treatment response was assessed. Of the 165 patients evaluated, 161 (98%) showed a differential response, with the best response during LABA step-up treatment occurring significantly more frequently than during LTRA or ICS step-up. Higher scores in the asthma control test (better control at baseline) and white race predicted better responses to LABA step-up.

Although this study showed better responses to LABA step-up, many children had the best responses with both of the other step-up treatments. This highlights the need for regular monitoring in child asthma therapy when stepping up treatment.

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