Paediatric lung disease


Lung alert

Long-term effects of tiotropium in COPD

Long-acting inhaled anticholinergic agents are a mainstay of treatment in chronic obstructive pulmonary disease (COPD) and have a beneficial effect on many clinical outcomes. This study examined the long-term benefits and safety of tiotropium in COPD, particularly the rate of decline of forced expiratory volume in 1 s (FEV₁).

In a multinational double-blind placebo controlled trial, patients were randomised to receive tiotropium or placebo in addition to all their other respiratory medications (excluding other anticholinergic agents). Patients were included if they were over the age of 40 with a diagnosis of COPD. Patients with asthma, those with an exacerbation of COPD in the preceding month and those on long-term oxygen therapy were excluded.

There was no significant difference in the yearly decline of FEV₁ between the two groups. However, there was a significant rate of decline in those that prematurely left the study and these individuals were more likely to be in the placebo group. Tiotropium significantly reduced exacerbations, hospitalisations and respiratory failure compared with placebo and also improved health-related quality of life. Serious cardiac adverse events, including myocardial infarction and cardiac failure, were significantly reduced in the tiotropium arm.

The authors concluded that, although tiotropium had no effect on reducing the rate of decline of lung function in COPD, there were other beneficial effects. The low cardiac adverse event rates at follow-up are also reassuring in view of a recently published meta-analysis, although further studies must be conducted to clarify this issue.


N Pareek

Correspondence to: Dr N Pareek, ST2 Respiratory Medicine, Royal Brompton Hospital, London, UK, nlpareek@gmail.com