LETTER TO THE EDITOR

Recovery time following bronchial challenge

Van der Woude et al. have demonstrated that compared to placebo, the Borg score returned significantly quicker to baseline value after inhalation of formoterol, salmeterol and salbutamol. These results were observed following methacholine challenge during which the forced expiratory volume in 1 s (FEV₁) was required to fall by at least 30%. While expected, these findings may only be of relevance to patients with mild asthma who are steroid naive or who use regular inhaled corticosteroids alone.

In everyday clinical practice, many asthmatics with moderate-to-severe disease—especially those with impaired FEV₁—are maintained on combined inhaled corticosteroid plus long-acting β₂-agonist preparations. Despite the theoretical compliance benefit, it is important to note that regular use of the long-acting β₂-agonist moiety is known to blunt the effects of salbutamol. In other words, patients using regular long-acting β₂-agonists experience a more prolonged recovery despite acute salbutamol administration.

Several studies have demonstrated that prior administration of a leukotriene CysLT₁-receptor antagonist significantly shortens the time taken to recover following bronchial challenge, with the implication that cysteinyl leukotrienes are integral pro-inflammatory mediators in maintaining the bronchoconstrictor response. Indeed, the 'real-life' implication of this was observed in a study by Camargo et al. In this double-blind, parallel group controlled trial, 210 patients with acute asthma were randomised to receive either montelukast or placebo along with conventional therapy. Patients given active drug had a significantly more rapid improvement in FEV₁ over a 2-h period and received less inhaled β₂-agonist compared to placebo.

In conclusion, it is important to bear in mind that the findings of van der Woude et al. should only be applied to patients who do not use regular long-acting β₂-agonist. Moreover, use of a leukotriene CysLT₁-receptor antagonist such as montelukast is an effective means of shortening the recovery time following an acute episode of bronchoconstriction, irrespective of prior use of long-acting β₂-agonist. Whether leukotriene CysLT₁-receptor antagonists should be used along with standard therapy in emergency departments to quicken the time taken to recover remains to be seen.

References


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