

Letters to the Editor

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Do Long-Acting Beta₂ Agonists Impair the Effect of Short-Acting Beta₂ Agonists in Some Patients?

Original Article: Medical Therapy for Asthma: Updates from the NAEPP Guidelines

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TO THE EDITOR: In this update on asthma therapy, Drs. Edward and Pollart write: "In general, the effectiveness of short-acting beta₂ agonists is not impaired in regular users of long-acting beta₂ agonists." The citation for this statement is a study published in 1993 involving 12 patients with mild asthma.¹ A subsequent study found that use of salmeterol (Serevent) blunted the bronchodilator response to salbutamol (available as albuterol in the United States).² In 2006, Drs. Weinberger and Abu-Hasan described two adolescent boys with life-threatening asthma exacerbations in whom response to albuterol and control of symptoms improved after withdrawal of salmeterol therapy.³ As Drs. Edward and Pollart note, the Salmeterol Multicenter Asthma Research Trial found an increase in severe asthma exacerbations and asthma-related deaths among patients randomized to salmeterol therapy.⁴

Long-acting beta₂ agonists have documented benefits in controlling symptoms and reducing exacerbations when used as add-on therapy in patients whose symptoms are not adequately controlled with inhaled steroids alone.⁵ However, there is evidence that these agents blunt the bronchodilator response in some patients. Therefore, before prescribing these agents, it is important to educate patients on the optimal use of inhaled steroids and document the persistence of symptoms despite an adequate trial of inhaled steroids.

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IN REPLY: Dr. Edwards addresses an important issue in optimal asthma management. We agree that long-acting beta₂ agonists should be used with caution and never in isolation. As we discussed in our article, before prescribing these agents physicians need to educate patients on optimal use and reasons for treatment. The Salmeterol Multicenter Asthma Research Trial, poorly designed as it was, clearly suggested the risk of using long-acting beta₂ agonists in isolation.¹ There are conflicting data on the safety of long-acting beta₂ agonists, but overall the literature, including an updated Cochrane review, demonstrates consistent and clinically important benefits when using these agents in combination with inhaled steroids.²⁻⁴

The U.S. Food and Drug Administration has conducted a comprehensive review of the benefits and risks of using long-acting beta₂ agonists to treat asthma. Based on this review, it recommended that long-acting beta₂ agonists be reserved for patients whose asthma cannot be managed adequately with an asthma controller medication such as an inhaled steroid, and that long-term use of long-acting beta₂ agonists be limited to ►

patients who require prolonged use of these drugs.⁵

The risk of serious asthma exacerbations and asthma-related death is not limited to long-acting beta₂ agonists. Most physicians are well aware that short-acting beta₂ agonists can worsen asthma and cause asthma-related death. This could be because of increased sensitivity to bronchoconstrictive stimuli or masking of the symptoms of worsening asthma. Therefore, current asthma treatment guidelines also recommend that albuterol and other short-acting beta₂ agonists be used only as needed for short-term symptom relief and emphasize that asthma controller medications be used to minimize short-acting beta₂ agonist use.⁶

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