

Correspondence

Montelukast might improve compliance with subcutaneous immunotherapy treatments in patients with allergic asthma

To the Editor:

In the recent publication “Montelukast treatment may alter the early efficacy of immunotherapy in children with asthma,” Majak et al¹ reported that “compared with placebo, montelukast intervention led to less effectiveness of SIT.” This conclusion is contradicted by the author’s observation that a “statistically significant reduction in the asthma symptoms scores” was seen in both the placebo and montelukast study groups and that differences between these groups were “not statistically significant.” In addition, the authors found that 75% (12/16) of the patients in the montelukast group were able to reduce their dose of inhaled steroids by 25% or more by the end of the study, as shown in their Fig 2, A.

More importantly, what was not fully appreciated in this study was that the high dropout rate seen in the placebo group (27.7% [5/18]) would be “clinically unacceptable” to most allergists.

Many allergists have anecdotally observed that administering premedication before the administration of SIT reduces the frequency and intensity of adverse reactions and consequently reduces dropout rates. Many differing opinions exist concerning the medications best suited for use as premedication. It has been reported that “premedication with anti-histamines may enhance efficacy of specific-allergen immunotherapy.”² Similarly, it has also been reported that “pretreatment with anti-histamines significantly reduces local and systemic adverse reactions to immunotherapy with hymenoptera venom.”³ Interestingly, and more relevant to this study, Davis et al⁴ reported that the early allergic response to inhaled allergens by asthmatic patients was most effectively blocked by a combination of desloratadine and montelukast when compared with either agent alone. Some allergists use montelukast as a premedication, often in combination with anti-histamines, before administering specific immunotherapy (SIT).

The authors report that the 27.7% dropout rate noted in the placebo group was entirely attributable to adverse effects of SIT on the participant’s asthma but that this was not a factor in the 11% dropout rate seen in the montelukast group. It goes without saying that if immunotherapy is to be effective, it must be well tolerated by the patient. If the use of montelukast truly resulted in fewer treatment-related dropouts, then the results of this study would seem to support the use of montelukast during SIT, especially if clinical efficacy is judged by how many patients were compliant with their treatment. In this study the authors note that most of the dropouts occurred during the “build-up” phase of SIT. If an immunologically undesirable and clinically relevant adverse effect of montelukast did occur in this study (ie, the impairment of regulatory lymphocyte induction), then this would raise the following question: Should montelukast, when used to reduce dropout rates from SIT during “build-up,” be continued during the maintenance phase of immunotherapy, when adverse reactions are relatively rare?

Michael P. Vaughn, MD, PhD

From Alamo Asthma & Allergy, San Antonio, Tex. E-mail: mpvaughn@sbcglobal.net.
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REFERENCES

1. Majak P, Rychlik B, Pulaski L, Blauz A, Agnieszka B, Bobrowska-Korzeniowska M, et al. Montelukast treatment may alter the early efficacy of immunotherapy in children with asthma. *J Allergy Clin Immunol* 2010;125:1120-7.
2. Muller U, Hari Y, Berchtold E. Premedication with antihistamines may enhance efficacy of specific immunotherapy. *J Allergy Clin Immunol* 2001;107:81-6.
3. Brockow K, Kiehn M, Riethmuller C, Vieluf D, Berger J, Ring J. Efficacy of antihistamine pretreatment in the prevention of adverse reactions to hymenoptera. *J Allergy Clin Immunol* 1997;100:458-63.
4. Davis BE, Todd DC, Cockcroft DW. Effect of combined montelukast and desloratadine on the early asthmatic response to inhaled allergen. *J Allergy Clin Immunol* 2005;116:768-72.

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