

Singulair-induced anaphylaxis?

While extremely rare, it's not unheard of. Our young patient's experience reminds us that any drug—even one used to treat allergies—can cause anaphylaxis.

When L.O., an African American boy, was 13 months old, he was taken to the emergency room by his mother for an episode of diffuse expiratory wheezing. The family had a history of asthma. L.O.'s wheezing was effectively treated with albuterol, which was prescribed for use at home. At 17 months, L.O. was diagnosed with eczema and allergy to eggs.

When the boy was 3 years old, his mother brought him to St. Dominic's Health Clinic in Jamaica, NY, for a well-child visit. She reported that L.O. had experienced only 2 asthma attacks in the past year. We diagnosed mild intermittent asthma and advised the mother to continue using albuterol as needed. The patient returned to the clinic at age 4, with redness and swelling of both eyes typical of allergic conjunctivitis. Four months later L.O. returned with rhinorrhea, which, in conjunction with asthma, eczema, and allergic conjunctivitis, led us to diagnose atopic syndrome. This time, we prescribed 4 mg Singulair (montelukast sodium), to be taken once daily.

Immediately after taking a single Singulair tablet in the afternoon, L.O. developed pruritus. That evening he awoke from his sleep screaming; he had prominent lip, facial, and pedal edema. He also had trouble breathing and had red, blotchy hives over his entire back. His

mother was unable to administer epinephrine (EpiPen), which had been prescribed for L.O.'s egg allergy. She called 911 and L.O. was taken to an emergency room. He had tachycardia and a low-grade fever. Epinephrine and diphenhydramine (Benadryl) began to lower his temperature and gradually lessened his edema and urticaria. Upon L.O.'s discharge, his mother was cautioned not to give him any more Singulair.

How common is L.O.'s experience? In a review of the literature, we found just 4 mentions of an anaphylactic response to Singulair treatment. We describe these reports here and discuss the implications.

■ A drug with few reported side effects

Singulair is a leukotriene receptor antagonist commonly prescribed for the prevention and treatment of asthma and for the treatment of allergic rhinitis. It is an orally active compound that binds with high affinity to the CysLT type-1 receptor, a leukotriene receptor found in a variety of human airway cells, including smooth muscle cells, macrophages, and eosinophils.¹ At this receptor, Singulair inhibits the physiologic action of LTD₄, a leukotriene released by various inflammatory cells that normally initiates the symptoms of asthma.

Adriel Gerard, fourth year medical student

State University of New York at Buffalo School of Medicine
 adriel.gerard@gmail.com

Shantie Harkisoon, MD
 St. Dominic's Health Clinic,
 Jamaica, Queens, NY

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Singulair has been shown to dramatically increase forced expiratory volume, decrease usage of inhaled beta-agonists, and improve other asthma-related outcomes in both adults and children. In clinical studies, Singulair has proven safe, with few reported side effects. Some benign adverse events have been associated with this drug when compared with placebo, but causality between these events and Singulair is uncertain. Anaphylaxis was not reported in any of the premarketing clinical studies of Singulair.

■ 4 other accounts of anaphylaxis

Singulair's package insert mentions anaphylaxis as an adverse reaction reported after the US Food and Drug Administration approved the drug in 1998.¹ Merck & Co., producer and distributor of Singulair, did not provide any specific information on reports of anaphylaxis for this review.

The Drug Safety Research Unit, an independent body associated with the University of Portsmouth in England, mentioned just one instance of anaphylaxis in a study of adverse reactions to montelukast among a cohort of more than 15,000 patients.²

A presentation given at a Healthcare Information Management Systems Society conference also briefly mentioned the case of an 8-year-old boy who experienced an anaphylactic reaction to Singulair.³

The only published description of

a possible case of anaphylaxis in response to Singulair appeared in a report published by Lareb, the Dutch national pharmacovigilance system.⁴ A 4-year-old boy suffered facial edema, rash, coughing, and fatigue 2 days after starting montelukast 5 mg daily for asthma. The patient's age and symptoms were strikingly similar to those of L.O.

■ Anaphylaxis: Always a possibility

Clearly, anaphylaxis as an adverse reaction to Singulair is rare, with only a handful of cases being reported worldwide. Nevertheless, anaphylaxis is life threatening, and we should be alert to its possibility when prescribing Singulair, especially for patients with a history of atopy. ■

Correspondence

Adriel Gerard, State University of New York at Buffalo School of Medicine, 99 Gold Street, Apt 1L, Brooklyn, NY 11201; adriel.gerard@gmail.com

Disclosure

The authors reported no potential conflicts of interest relevant to this article.

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FAST TRACK

We should be alert to the possibility of anaphylaxis when prescribing Singulair for a patient with a history of atopy.

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