

American Journal of Health-System Pharmacy.

Vol. 66, Issue 19, 1705-1706

Copyright © 2009. American Society of Health-System Pharmacists, Inc. All rights reserved. 1079-2082/04/0602-1242\$06.00

Case Reports

Possible montelukast-induced angioedema

Racha Sabbagh and Marwan Sheikh-Taha

RACHA SABBAGH, PHARM.D., is a recent graduate; and MARWAN SHEIKH-TAHA, PHARM.D., BCPS (AQ Cardiology), is Clinical Assistant Professor, School of Pharmacy, Lebanese American University, Byblos, Lebanon.

Address correspondence to Dr. Sheikh-Taha at the School of Pharmacy, Lebanese American University, P.O. Box 36, Byblos, Lebanon (marwan.taha@lau.edu.lb).

Purpose. A possible case of montelukast-induced angioedema is reported.

Summary. A 46-year-old woman with a history of severe allergies, including food allergies, and angioedema was evaluated at the emergency department (ED) for an acute episode of angioedema. Upon arrival at the ED, the patient had severe jaw tightness, facial numbness, uncontrollable cheek lifting, swollen eyes, and a swollen protruding tongue and was unable to catch her breath. Her dyspnea was apparent, and she was unable to talk and instead used hand and face gestures for affirmative and negative responses. The patient was treated with 0.3 mg epinephrine intramuscularly into the right thigh. After treatment, she had a temperature of 37 °C, a pulse of 90 beats/ min, a blood pressure value of 100/59 mm Hg, a respiratory rate of 16 breaths/min, and 100% oxygen saturation on room air. After stabilization, she reported that her allergies had been adequately controlled with ebastine 10 mg daily, montelukast 10 mg daily, and vitamins (unspecified). The patient reported that since she started montelukast one month prior, she experienced three similar episodes, the first occurring five days after starting the drug. She mentioned being diagnosed and adequately treated these three times in the ED for angioedema. The patient denied any changes in eating habits or in her medications except for starting montelukast. She was observed at the ED for an hour and then discharged after stabilization on hydroxyzine hydrochloride 25 mg orally daily and fexofenadine hydrochloride 180 mg orally daily. Montelukast was discontinued.

Conclusion. A patient developed angioedema four times during one month of treatment with montelukast.

Index terms: Angioedema; Antihistamines; Ebastine; Epinephrine; Fexofenadine hydrochloride; Hydroxyzine hydrochloride; Leukotriene antagonists; Montelukast sodium; Sympathomimetic agents; Toxicity; Vitamins

Montelukast sodium, a synthetic leukotriene-receptor antagonist, is used in the management of asthma, prevention of exercise-induced bronchospasm, and symptomatic treatment of seasonal or perennial allergic rhinitis.¹ Rare but serious adverse effects have been reported with montelukast use, including Churg-Strauss syndrome,² hepatotoxicity,³ generalized urticaria,⁴ and eyelid angioedema.⁴ We present a case of possible montelukast-induced angioedema.

Case report

A 46-year-old woman with a history of severe allergies, including food allergies, and angioedema was evaluated at our emergency department (ED) for an acute episode of

angioedema. Upon arrival at the ED, the patient had severe jaw tightness, facial numbness, uncontrollable cheek lifting, swollen eyes, and a swollen protruding tongue and was unable to catch her breath. Her dyspnea was apparent, and she was unable to talk and instead used hand and face gestures for affirmative and negative responses.

The patient was treated in accordance with guidelines for angioedema⁵ and given 0.3 mg of epinephrine (1:1000) intramuscularly into the right thigh. After treatment, she had a temperature of 37 °C, a pulse of 90 beats/min, a blood pressure value of 100/59 mm Hg, a respiratory rate of 16 breaths/min, and 100% oxygen saturation on room air.

After the patient was stabilized, she reported that she was being followed by a nutritionist and was on a special diet to overcome her food allergies. She reported that her allergies were adequately controlled by adhering to a regimen of ebastine (a nonsedating histamine H₁-receptor antagonist) 10 mg orally daily (not currently available in the United States), montelukast 10 mg orally daily, and vitamins that she was unable to specify at the time of evaluation.

The patient reported that after starting treatment with montelukast a month ago, she had experienced three similar episodes of angioedema, the first of which occurred about five days after starting the drug. She mentioned being diagnosed and adequately treated in the ED for angioedema for the three previous episodes. She denied any changes in eating habits or in her medications except for starting montelukast. Montelukast was not stopped at the time of the previous episodes because it was not identified as a potential cause.

The patient was observed at the ED for an hour and then discharged after stabilization on hydroxyzine hydrochloride 25 mg orally daily and fexofenadine hydrochloride 180 mg orally daily. Montelukast and ebastine were discontinued.

Discussion

We attributed our patient's adverse reaction to montelukast because of the temporal relationship between the initiation of montelukast and four episodes of angioedema in one month. Though this patient had a history of severe allergy, she had never experienced angioedema before starting montelukast. She denied any changes in eating habits or in her medications except for starting montelukast. Moreover, there have been some postmarketing reports of angioedema with montelukast use.¹ In addition, a literature search revealed one case report of eyelid angioedema associated with montelukast use,⁴ which also occurred in our patient. Use of the Naranjo et al.⁶ adverse reaction probability scale revealed a possible association between angioedema and montelukast (score of 4).

The increased use of montelukast for allergies makes the reported case seem like a paradoxical reaction. One limitation to this report was the missing data as the patient was not able to speak upon arrival at the ED. More details about the type of allergies and sequence of events between angioedema episodes could not be obtained from the patient.

Health care providers should be aware of the serious and life-threatening angioedema that may occur with montelukast use.

Conclusion

A patient developed angioedema four times during one month of treatment with montelukast.

Footnotes

The authors have declared no potential conflicts of interest.

References

1. Singulair (montelukast sodium) tablets and chewable tablets prescribing information. Whitehouse Station, NJ: Merck & Co.; 2006 Sep.
2. Guilpain P, Viallard JF, Lagarde P et al. Churg-Strauss syndrome in two patients receiving montelukast. *Rheumatology*. 2002; 41:535–9.[\[Abstract/Free Full Text\]](#)
3. Sass DA, Chopra KB, Wu T. A case of montelukast-induced hepatotoxicity. *Am J Gastroenterol*. 2003; 98:704–5.[\[CrossRef\]](#)[\[Medline\]](#)
4. Minciullo PL, Saija A, Bonanno D et al. Montelukast induced generalized urticaria. *Ann Pharmacother*. 2004; 38:999–1001.[\[Abstract/Free Full Text\]](#)
5. Winters M. Initial evaluation and management of patients presenting with acute urticaria or angioedema. www.medscape.com/viewarticle/552643 (accessed 2009 Jun 29).
6. Naranjo CA, Busto U, Sellers EM et al. A method for estimating the probability of adverse drug reactions. *Clin Pharmacol Ther*. 1981; 30:239–45.[\[Medline\]](#)