

Altered Taste Secondary to Acetazolamide Therapy

Lucinda G. Miller, PharmD, and Susan M. Miller, MD
Houston, Texas

Acetazolamide, a carbonic anhydrase inhibitor, has been used in the adjunctive treatment of open-angle glaucoma and epilepsy.^{1,2} More recently it has been found useful in the prevention or treatment of acute high-altitude (mountain) sickness.³ When used in appropriate doses (250-mg conventional tablets every 8 to 12 hours or 500-mg extended-release capsules every 12 or 24 hours) begun 24 to 48 hours before ascent and continued for at least 48 hours after arrival (or longer as needed), it has been found effective in relieving acute mountain sickness symptoms in 63.8% of patients.⁴ Side effects, however, may limit the usefulness of acetazolamide for acute mountain sickness.⁵

Side effects associated with acetazolamide include anorexia, nausea, vomiting, rash, weight loss, and photosensitivity. Central nervous system side effects include weakness, malaise, fatigue, dizziness, globus hystericus, and headache. Paresthesias of the extremities, of the tongue, or at the mucocutaneous junction of the lips, mouth, or anus have also been described. Distortion of normal taste (dysgeusia) has previously been described once in the English language literature and was confined to altered taste sensation to carbonated beverages.⁶ Reported herein is a case that included altered taste to both carbonated and noncarbonated beverages and food.

CASE REPORT

A 31-year-old white woman took one 250-mg conventional-release tablet of acetazolamide for prevention of acute mountain sickness, beginning a 250-mg every-8-hour regimen 24 hours prior to ascent for a skiing trip. Shortly thereafter, 1½ hours later, she noticed that the carbonated cola beverage she was drinking tasted bitter, although the

same carbonated beverage tasted normal to a colleague not taking a carbonic anhydrase inhibitor. The same phenomenon was noted with a second can. A bitter taste was also noted for tea (hot) and her Mexican breakfast (specifically, a fajita and egg taco) ingested after the carbonated cola beverage. She also experienced nausea, flushing, lightheadedness, and paresthesias of the lower extremities, tongue, and mucocutaneous junction of the lips. None of these symptoms had been previously experienced by her, nor was the patient taking any other medications. Within 3 hours, the symptoms began to abate with near complete resolution within 14 hours following the single dose (14 hours later another carbonated cola beverage was tasted with a lingering, albeit far less, bitter residue). The patient discontinued taking acetazolamide after the single dose and had no further recurrence of the described symptoms. Acute mountain sickness symptomatology did not occur. The patient has no known drug allergies. Her spouse took the same dose (same lot number) without adverse effect.

DISCUSSION

Taste perception can be altered by various disease states or drugs. Cirrhosis of the liver, cancer, and renal failure have been associated with diminished or absent taste perception. Penicillamine and captopril, both containing a sulfhydryl group, have been implicated in ageusia.⁷ Ageusia has also been associated with transdermal nitroglycerin.⁸ Tetracycline and metronidazole have been associated with a metallic taste.^{9,10} Dysgeusia secondary to acetazolamide therapy has previously been described only once in the English language literature.⁶

Altered taste perception secondary to ingestion of carbonic anhydrase inhibitors has previously been limited to dysgeusia following ingestion of carbonated beverages. Graber and Kelleher⁶ described a case that resulted in distorted taste perception of beer. They cite a translated Scandinavian study documenting dysgeusia secondary to

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From the Departments of Family Medicine and Internal Medicine, Baylor College of Medicine, Houston, Texas. Requests for reprints should be addressed to Lucinda G. Miller, PharmD, 5510 Greenbriar, Houston, TX 77005.

a carbonated cola beverage in all 39 subjects who had ingested 250 mg of acetazolamide.¹¹ All subjects experienced the effect within 3 hours, and it persisted for 6 to 7 hours in 50% of the subjects. Hansson¹¹ has proposed that the bitter taste is caused by a local change in the taste receptors by carbonic anhydrase inhibitors, allowing for enhanced perception of the taste of carbonic acid, which is bitter.⁶ In the case reported herein, the altered taste perception was not confined solely to carbonated beverages.

Although this case report is similar to that reported by Hansson in terms of onset (less than 3 hours), duration (at least 6 to 7 hours), and nature of taste distortion (ie, bitter), dysgeusia was also noted following the ingestion of hot tea and breakfast tacos. Persistence of altered taste receptors either locally or centrally secondary to ingestion of carbonic anhydrase inhibitors may account for this phenomenon or may be totally unrelated. It certainly is deserving of further study.

Dysgeusia secondary to acetazolamide therapy is not widely recognized but appears to be relatively common. With increased use of acetazolamide for acute mountain sickness, it is anticipated that this side effect will be encountered more frequently. Patients should be forewarned that such an interaction exists and may require an altered diet during therapy, especially in regard to carbonated beverages.

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