

Montelukast induced bromhidrosis in the setting of chronic spontaneous urticaria: a case report

Dear Editor,

Bromhidrosis -also known as osmidrosis, ozochrotia, and malodorous sweating- is a condition of offensive or unpleasant body odor attributable to excessive apocrine or eccrine gland secretions¹.

A 25-year-old Caucasian woman with a primary diagnosis of chronic spontaneous urticaria, secondary diagnosis of symptomatic dermographism, and history of rhinoconjunctivitis was prescribed Montelukast 10 mg q.d. as an add-on therapy to levocetirizine 5 mg b.i.d.

The patient reported that three days after the first montelukast administration, she started having heavy perspiration and body odor, both confirmed by family members. She then decided to stop taking montelukast, and 24 hours later, bromhidrosis receded. After one week, she tried retaking it, but the body odor and excessive sweating reappeared.

Apocrine bromhidrosis, the most common form of the disease, is thought to occur largely due to bacterial degradation of apocrine sweat, producing specific substances with distinctive odors¹. The products of this biotransformation, volatile fatty acids, the so-called pheromones (mainly 16- androstene steroids), and thioalcohols produce their own special odor².

Eccrine bromhidrosis, on the other hand, can be subdivided into localized and generalized. Localized bromhidrosis has been postulated due to bacteria's action on softened keratin by eccrine sudoriferous gland secretions. In contrast, generalized eccrine osmidrosis may result from systemic illness or ingestion of substances that promote malodor. These may include certain comestibles (garlic, onion), toxins, underlying systemic diseases and metabolic disorders (e.g., liver and renal dysfunction, phenylketonuria), as well as specific drugs (e.g., penicillin, bromides)¹.

It is important that the patient's environment confirms the malodorous sweating. Otherwise, it could be a symptom of delusion.

Montelukast sodium is a selective and orally active leukotriene receptor antagonist that inhibits the cysteinyl leukotriene CysLT₁ receptor, thus blocking the various effects of leukotrienes (bronchoconstriction, inflammation, microvascular permeability, and mucus production) in the lungs³. Montelukast is often prescribed for the prevention and long-term control of asthma. It is also utilized to relieve seasonal respiratory allergies and to prevent exercise-induced bronchospasm. The drug's common side effects include abdominal pain, cough, upper respiratory infections, headache, dizziness, rash, and liver enzymes' elevation. On the severe side of the adverse reactions spectrum lie, albeit rare, anaphylaxis and neuropsychiatric manifestations, including suicidal thoughts or actions. The latter prompted the Food and Drug Administration (FDA) to issue a relevant boxed warning (March 2020). Among the many other side effects reported in the Montelukast summary of product characteristics (SPC), excessive sweating and halitosis are included, but bromhidrosis is not listed⁴.

A meticulous and thorough search of the literature regarding a probable association between montelukast and bromhidrosis yielded no results. To the best of our knowledge, we herein report the first case of montelukast-induced bromhidrosis.

Conflicts of Interest

None.

Keywords: Osmidrosis, ozochrotia, malodorous, sweating, body odor, side effect, perspiration.

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