

Improvement of Cold Urticaria by Treatment with the Leukotriene Receptor Antagonist Montelukast

Sir,

We report here a case of cold urticaria refractory to histamine receptor blockers that showed fundamental improvement after treatment with the leukotriene receptor antagonist montelukast.

CASE REPORT

A 29-year-old woman had suffered from cold urticaria for 2.5 years. Diagnosis was based on history and a cold challenge test. Urticarial lesions developed predominantly on her face after exposure to cold wind or changes in environmental temperature from warm to cold. The patient reported that the urticaria had never been accompanied by systemic symptoms. She denied any familial cold urticaria. Testing with plastic tubes filled with water at different temperatures demonstrated that hives could be provoked upon exposure to 0°C for 5 min at the forearm and were still present after 20 min. Cold urticaria secondary to other diseases in our patient was excluded by extensive laboratory work-up. The routine laboratory tests, including erythrocyte sedimentation rate, total blood cell count, urine analysis, blood sugar level, antinuclear antibodies, antistreptolysin titer, liver function tests and serum electrolytes did not reveal any abnormalities. Cold agglutinins and cryoglobulins were negative. Gamma-globulins were slightly elevated with unremarkable immunofixation. Based on these results, we diagnosed an acquired, immediate cold urticaria.

Various antihistamines, such as cyproheptadine (4 mg daily) and cetirizine (30 mg daily) as well as doxycycline (200 mg daily for 3 weeks), were administered. However, they provided only minimal or no relief. Eventually, treatment with montelukast (Singulair®), a leukotriene receptor antagonist, significantly improved the urticaria after only 4 days of oral administration at a daily dose of 10 mg. Thus, using a visual analogue scale (VAS) with a range of 1–10 for recording severity of self-assessed symptoms, the patient ranked the wealing and itching from initially 10 to 2, where 1 indicated no wealing and 10 extensive wealing, under treatment with montelukast. Administration of montelukast was continued for 5 weeks with significant and stable improvement of symptoms. Re-challenge under montelukast treatment revealed a substantial suppression of hives to 5% of initial wealing.

DISCUSSION

Leukotriene receptor antagonists are a new group of anti-allergic drugs that are increasingly used for the treatment of allergic and exercise-induced asthma in adults and children (1) where, similar to urticaria, mast cells and a cascade of

mediators from the arachidonic-acid metabolism play a key role in pathogenesis. Recently, leukotriene receptor antagonists have been described in 4 independent reports to treat chronic urticaria successfully (2–5). The substances used in these reports included zafirlukast and zileuton. These anti-urticarial effects of leukotriene receptor antagonists were due to the inhibition of leukotriene effects via competitive binding to their CysLT1 receptor (6). To date, montelukast had not been tested in chronic urticaria.

The rapid relief after administration of montelukast together with the preceding 2.5-year-long history of unresolved cold urticaria in our patient argue strongly against spontaneous resolution of the disease. Thus, leukotriene receptor antagonists may be a novel, promising drug entity for the treatment of cold urticaria.

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