OMALIZUMAB-INDUCED PARADOXICAL URTICARIA RESPONSIVE TO DUPILUMAB

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CASE REPORT

A 47-year-old woman with history of severe asthma since childhood, allergic conjunctivitis, epilepsy, depression and cardiac arrhythmia consulted for the occurrence of urticaria lesions for 3 months. Her treatment included omalizumab 600mg every 4 weeks for 12 months, montelukast, fluticasone-salmeterol, tiotropium, salbutamol, carbamazepine, topiramate, perampanel, bisoprolol, salicylic acid, agomelatine, mirtazapine and pantoprazole without recent changes. She had no recent history of infection or vaccination, did not recently received oral corticosteroids. She had no personal history of urticaria.

She reported urticaria and angioedema lesions for 3 months, without inducible urticaria or extracutaneous signs. Injections of omalizumab did not influence the course of urticaria. Treatment with H1 antihistamines (ebastine up to 4 tabs/day for 1 month, bilastine up to 3 tabs/day for 1 month) associated with hydroxyzine 25 mg/day did not lead to improvement. The urticaria control test (UCT) score was rated 5, indicating an uncontrolled urticaria.

Blood count, renal and hepatic tests were normal, CRP dosage was 15.2mg/L, total IgE level was 389 UI/L. Search for anti-thyroid and antinuclear antibodies was negative. Skin biopsy was compatible with urticaria without evidence for vasculitis or neutrophilic dermatosis. Direct immunofluorescence was negative.

The management of this chronic urticaria included the maintenance of bilastine at 3 tab/day, the discontinuation of omalizumab relayed by dupilumab (600 mg, then 300 mg every other week). The patient reported an improvement in urticarial symptoms after the first injection of dupilumab..After 3 months, the UCT score was rated 15, indicating a complete control of urticaria. She reported minor reactions at the dupilumab injections sites. Chronic urticaria remained well controlled with dupilumab and bilastine, secondarily decreased to 2 tab/day, with a 15 months follow-up. Asthma was well controlled despite some exacerbations with favorable evolution with symptomatic treatment.

DISCUSSION

We report to our knowledge the first case of chronic urticaria occurring under omalizumab treatment. A case of acute urticaria during the first two injections of omalizumab for asthma, without recurrence during subsequent injections had been reported. Paradoxical omalizumab-induced urticaria has been reported as anaphylaxis reactions, mainly related to polysorbate allergy. To explain this paradoxical urticaria, one could hypothesize that omalizumab would have activated mast cells immunologically by binding to FcR receptors on their surface. Chronic spontaneous urticaria could also have been a comorbidity of her atopy and resist to omalizumab. Dupilumab was rapidly effective for our patient, as it has been reported for patients with chronic urticaria failing omalizumab. However, we cannot exclude a spontaneous resolution of chronic spontaneous urticaria.