Rituximab for the Treatment of Recalcitrant Chronic Autoimmune Urticaria

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Rituximab is a chimeric murine/human monoclonal antibody directed against CD20, traditionally used to treat non-Hodgkin lymphoma, chronic lymphocytic leukemia, rheumatoid arthritis in combination with methotrexate, granulomatosis with polyangiitis, and microscopic polyangiitis.[1] Rituximab depletes memory B-lymphocytes that are necessary for autoantibody production, which is the proposed mechanism by which it may alleviate the symptoms of chronic urticaria (CU).[1,2] There are few case reports published demonstrating the successful use of rituximab in patients with CU.[1] Herein, we describe a patient who achieved a 10 month remission of recalcitrant CU following the use of rituximab.

A 38-year-old white female initially presented to our clinic with a 1-year history of an itchy rash all over her body, with facial swelling. Her symptoms began with extreme itching on her palms, soles, and ears which progressed to involve her entire body. The symptoms occurred once per month, but were becoming more frequent, occurring 3 out every of 10 days. She had been managed with triple antihistamine therapy including fexofenadine 180 mg po daily, ranitidine 150 mg po twice daily, and hydroxyzine 50 mg po nightly, which were not providing relief of her symptoms. The patient required Emergency Department visits and hospital admissions where she was treated with glucocorticoids and antihistamines. Of note, patch testing revealed a 1+ reaction to toluene sulfonamide formaldehyde resin 10.0 pet, and a 2+ reaction to nickel sulfate hexahydrate, ethyl acrylate, methyl methacrylate, and 2-hydroxyethyl methacrylate.

After restarting the antihistamine triple therapy and prednisone 60 mg po daily, the patient was hospitalized for an acute flare of urticaria. She was given an infusion of 1 gram of rituximab overnight, and was discharged receiving 60 mg of prednisone po daily for 1 week, which significantly improved her symptoms. She only complained of minor breakthrough lesions following the first rituximab infusion. Two weeks later, she received the second infusion of 1 gram of rituximab and subsequently had no episodes of CU for 10 months. Though the patient achieved temporary remission of her condition with rituximab infusions without requiring systemic glucocorticoids or oral antihistamines, she experienced significant side effects including fatigue, arthralgias, and swelling around the infusion site. After 10 months without symptoms, the patient developed a small, erythematous intensely pruritic, welt on her right chest, which increased to become larger, more numerous welts. The welts were fixed and larger than in previous episodes, and were not relieved by antihistamines. Another round of 2 doses 1 gram of IV rituximab, 2 weeks apart, was recommended and topical clobetasol foam was added to her regimen.

A case report revealed a 12-year-old boy with a history of recurrent otitis media and pneumonia who presented with CU and intermittent facial angioedema, only partially responsive to oral desloratadine.[3] The patient was given four infusions of rituximab 375 mg/m^2 and became symptom-free within 1 week of the infusions.[3] The patient obtained complete remission of CU and angioedema for 1 year following the use of rituximab, and then was easily managed with desloratadine.[3]

Another case report revealed a 51-year-old white woman with refractory autoimmune urticaria and associated abdominal pain, nausea, vomiting, and diarrhea who received 4 weekly infusions of rituximab 375 mg/m^2 and methotrexate 15-25 mg/week subcutaneously to prevent development of human anti-chimeric antibodies against rituximab.[4] Six weeks after her last infusion, the patient achieved complete remission of CU and associated gastrointestinal problems.[4] As a result, the patient was able to permanently discontinue oral glucocorticoids and antihistamines.[4] No randomized, blinded trials have been conducted to support the use of rituximab in CU, though a small number of case reports reveal remission of recalcitrant CU following the use of rituximab.[1] Further studies are indicated to determine the exact efficacy and optimal dosing of rituximab in the treatment of CU.

Disclosure

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