

Wasp Venom Immunotherapy: A 5-Year Case Follow Up

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Wasp Venom immunotherapy is used for preventing severe allergic reactions to wasp stings in people who had a sting reaction. Adults who have experienced an anaphylactic reaction have a 30-60% chance of recurrent reaction. Venom immunotherapy reduces the chance of severe anaphylaxis by 90%.¹

We present the case of a 54-year-old professional florist, amateur triathlete, gardener and outdoor yoga instructor. She was referred by her GP in 2014 regarding her allergy to wasp sting that was contributing to her anxiety. She had suffered multiple severe allergic reactions in the previous four years requiring epinephrine injection, and on three occasions was hospitalised. She had no past medical history though she reported frequent chest infections as a child and was wheezy in adulthood. Blood tests revealed a high wasp venom specific IgE and she was subsequently diagnosed with asthma as evidenced by mild obstructive airflow pattern on Pulmonary function test and a positive methacholine challenge test. The risks and benefits of venom immunotherapy were discussed. Her profession, her enthusiasm for outdoor activities, and the severity and frequency of her reactions were considered, and she opted for venom immunotherapy. When her asthma was well controlled, we proceeded with subcutaneous wasp venom immunotherapy. During the initial phase, an increasing dose of the venom immunotherapy was given until the maximum tolerated dose was reached. She then continued a maintenance dose every 6 weeks for 5 years under the consultant supervision. She initially experienced nausea and some local swelling at the injection site, but these minor reactions gradually resolved as therapy continued. She has had two wasp stings since completing treatment in 2020, with mild local swelling and no systemic symptoms. Wasp venom specific IgE was rechecked and showed a marked reduction from 8.21 kU/L in 2015 to 3.66 kU/L in 2020 (normal range: 0-0.35kU/L).

About 15% of the Irish population have complex allergies requiring specialist care.² Systemic allergic reaction to wasp sting can be life threatening, and in some severe cases can be unresponsive to epinephrine. The aim of immunotherapy in allergy is to modulate the immune response to a culprit allergen.³ This desensitisation mechanism showed a positive clinical and immunological response in our patient.

A literature search of 11 observational studies found systemic adverse reactions occurred only in 8/289 (2.8%) patients treated with wasp venom immunotherapy.⁴ The National Institute for Health and Care Excellence (NICE) guidelines in the UK recommend wasp venom immunotherapy as an option for the treatment of IgE-mediated wasp venom allergy in people who have had a severe systemic reaction to wasp venom, or a moderate systemic reaction wasp venom and who have one or more of the following: a raised baseline serum tryptase, a high risk of future stings or anxiety about future stings. Treatment should be initiated and monitored in a specialist centre.⁵

By inducing an immunological tolerance to wasp venom, we can conclude that our patient now has a better quality of life when compared to 5 years ago.

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