Allergol Immunopathol (Madr). 2011;39(3):189

Allergologia et immunopathologia

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LETTER TO THE EDITOR

Expanding indications of omalizumab therapy in the absence of specific IgE

To the Editor,

We read with interest the report by V Vovolis and colleagues on the efficacy of paper wasp venom immunotherapy in the absence of specific IgE.[1] Although this goes against conventional guidelines where immunotherapy is recommended only after specific IgE is detectable, we believe that such reports are extremely useful when expert opinions are used to produce guidelines in the absence of well-designed clinical trials. Such is the case with omalizumab, anti-immunoglobulin E (anti-IgE) monoclonal antibody, where it has been shown to prevent anaphylaxis in systemic mastocytosis (SM) patients who require bee/wasp venom immunotherapy (VIT) in the absence of specific IgE,[2] including a report where it was effective in a patient with severe asthma and negative skin prick test results.[3] However, current guidelines only recommend the use of omalizumab in uncontrolled allergic asthma and raised IgE.

The mechanism(s) of omalizumab in lowering total free IgE probably leads to the observed beneficial effects without being dependent on specific IgE. Omalizumab complexes with free IgE in serum, this results in down regulation of expression of the high-affinity IgE receptor on mast cells and basophils and subsequently a decrease in cellular activation and mediator release. The higher Ka of omalizumab for free IgE in serum (1.5×10^{-10} M) compared to that of FcεRI for IgE (1.0×10^{-10} M) and the extra hinge region of IgE allows more efficient binding of omalizumab.

The treatment of anaphylaxis in the setting of SM itself can be challenging, particularly when mastocytosis patients require VIT and have an increased incidence of allergic reactions to VIT injections when baseline tryptase is elevated. Omalizumab has been reported to be safe and effective in preventing recurrent anaphylaxis in several small case series.[2,4,5] Omalizumab (300 mg 4-weekly) was effective in SM patients who had multiple episodes of spontaneous anaphylaxis (hypotension),[5] including SM patients with undetectable specific IgE.[4] A decrease in mast cell and basophil activation in those patients on regular omalizumab therapy (2—4 weekly) improved response to conventional anaphylaxis treatment and patients were able to discontinue mast cell stabilisers.[5] Although omalizumab is not without side-effects (including, rarely, anaphylaxis to the drug itself), it seems to be effective in preventing anaphylaxis and therefore may prove to be a better and safer adjunct during immunotherapy.

References

1. Vovolis V, et al. Successful venom immunotherapy to paper wasp, in IgE-venom negative patient. Allergol Immunopathol (Madr). 2010, doi:10.1016/j.aller.2010.04.004.
2. Kontou-Fili K, Filis CI, Voulgari C, Panayiotidis PG. Omalizumab monotherapy for bee sting and unprovoked ''anaphylaxis'' in a patient with systemic mastocytosis and undetectable specific IgE. Ann Allergy Asthma Immunol. 2010;104:537—9.
3. van den Berge M, Pauw RG, de Monchy JG, van Minnen CA, Postma DS, Kerstjens HA. Beneficial effects of treatment with anti-IgE antibodies (Omalizumab) in a patient with severe asthma and negative skin-prick test results. Chest. 2011;139:190—3.
4. Douglass JA, Carroll K, Voskamp A, Bourke P, Wei A, O'Hehir RE. Omalizumab is effective in treating systemic mastocytosis in a nonatopic patient. Allergy. 2010;65:926—7.
5. Carter MC, Robyn JA, Bressler PB, Walker JC, Shapiro GG, Metcalfe DD. Omalizumab for the treatment of unprovoked anaphylaxis in patients with systemic mastocytosis. J Allergy Clin Immunol. 2007;119:1550—1.

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0301-0546/$ – see front matter
doi:10.1016/j.aller.2011.02.003