Pharmalgen for the treatment of venom allergy

Liverpool Reviews & Implementation Group Assessment Report

Initial comment from the
Specialty Advisory Committee on Immunology
Royal College of Pathologists

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Venom immunotherapy (VIT) is the only known treatment modality which will beneficially influence the natural history of severe allergic reactions to insect envenomation. With appropriate patient selection, and accepting that its use is associated with a variable level of clinical risk[1], it is generally regarded as an effective and safe treatment for individuals who are at risk of (repeat) severe reactions to hymenoptera venom and is estimated to decrease the risk in such individuals from >50% to <5%[2]. Some reports have indicated a protective efficacy of VIT in preventing recurrence of systemic symptoms on repeat stings of >90%[3]. There is only restricted availability of VIT services in the UK given its population size and the known prevalence of venom sensitivity[4].

There is a large body of literature which attests to the clinical (preventative) efficacy of VIT. This information base has been assessed by the LRiG Assessment Group and is not reproduced or referenced here. The literature base includes analysis of the clinically significant improvement in health-related quality of life arising from the use of VIT[5,6] and the perceived significant burden felt by patients in carriage of adrenaline autoinjectors versus treatment with VIT[7]. As with much allergy disease in the UK, there is considerable room for improvement in the care of patients with venom allergy although it can difficult to predict with any certainty how sensitised patients will react to stings, whether they will react at all and whether reactions will be localised or systemic[8]. This may be a function of the number of cofactors involved (environmental, drug, genetic and individual) It is not, however, possible to determine with any certainty how many people are prevented from having serious reactions, or dying, by VIT.

The College SAC notes the contents of the LRiG Assessment Report and the Appraisal Committee's consideration of this technology (Pharmalgen) is awaited with interest.

- The existing literature base assessed by the LRiG appears comprehensive.
- It is disappointing that no evidence clinical or cost-effectiveness submission was made by the manufacturer.
- Scoped outcomes for clinical effectiveness are appropriate.
- The comparator groups (PhVIT+HAD+AAI, HAD+AAI, avoidance advice only) appear appropriate (as compared to, for instance, no treatment as a comparator) on the assumption that avoidance advice is also given to the PhVIT+HAD+AAI and HAD+AAI groups. The lack of direct evidence to support conclusions about comparators is noted.
- The acknowledged key weaknesses and uncertainties in the data and assumptions underpinning the economic analysis are reaffirmed by the College SAC. The work undertaken by the LRiG to address or mitigate these limitations is acknowledged.
- The sub-group analysis information showing cost efficiency of VIT in patients at high risk of future stings and in patients whose quality of life from reduced anxiety about future stings is noted.
- Recommendations on patient groups most likely to benefit from VIT already exist in UK, European and North American guidelines.
- The recommendation on routine data collection (e.g. rates of systemic reactions to VIT, rates of systemic reactions to natural field re-sting) are likely to be in place already in treatment centres (though accessibility for analysis is uncertain).

On the basis of individual, anecdotal experience, expert clinical users of VIT (Pharmalgen) in the UK would regard this as a clinically efficacious form of treatment in respect of its primary application, that of preventing severe systemic reactions to bee/wasp envenomation in sensitised, at-risk individuals.

References

1. Winther L, Arnved J, Malling H-J et al. Side-effects of allergen-specific immunotherapy. A prospective multi-centre study. Clin Exp Allergy 2006; 36: 254-60
2. Diwakar L, Noorani S, Huissoon AP et al. Practice of venom immunotherapy in the United Kingdom: a national audit and review of literature. Clin Exp Allergy 208; 38: 1651-58
3. Krishna MT, Huissoon AP. Clinical immunology review series: an approach to desensitization. Clin Exp Immunol 2010; 163: 131-46
4. Long AA, Camargo Jr CA. Current practice of venom immunotherapy in the UK. Clin Exp Allergy 2008; 38: 1576-8
5. Oude Elbernick JN, De Monchy JG, Van Der Heide S et al. Venom immunotherapy improves health-related quality of life in patients allergic to yellow jacket venom. J Allergy Clin Immunol 2002; 110: 174-82
6. Oude Elbernick JN, van der Heide S, Guyatt GH, Dubois AE. Immunotherapy improves health-related quality of life of adult patients with dermal reactions following yellow jacket stings. Clin Exp Allergy 2009; 39: 883-9
7. Oude Elberink JN, Van Der Heide S, Guyatt GH, Dubois AE. Analysis of the burden of treatment in patients receiving an Epipen for yellow jacket anaphylaxis. J Allergy Clin Immunol 2006; 118: 699-704
8. Bilo MB, Bonifazi F. The natural history and epidemiology of insect venom allergy: clinical implications. Clin Exp Allergy 2009; 39: 1467-76