

Neutralization Therapy: What is it and does it work?

Mike Burrell BVMS MVM MRCVS

Allergy neutralization treatment, sometimes known as provocation-neutralization, is a form of desensitisation or immunomodulation. Its use was first described by Lee (1961) in humans and since that time has undergone various refinements. The technique of allergy neutralization is quite distinct from the more widely known incremental desensitisation. It has been shown to be efficacious in many well-controlled human studies (Boris, Weindorf and Schiff, 1988; King et al 1988; Gerrard and King 1989). The only report of its use in equine medicine was by Mansfield, Burrell, Curl and Valler (1998) and this paper reports the continued work of that group and upto date results.

The technique relies on the use of intradermal skin testing of suspected causative allergen extracts. In a series of cases reported here, the type of allergens were tailored to individual cases and their exposure but generally those tested included fungal spores, environmental organic debris that is inhaled or comes in contact with the skin, pollens and food constituents. A positive skin wheal response was used to identify potential allergens. On obtaining a positive response, further 1 in 5 dilutions were injected until no skin response was observed. This was known as the "neutralizing dose" and was the concentration required for treatment. When the neutralizing dose was found for all the allergens that caused a reaction they were included in a cocktail and injected at a dose of 0.1ml daily subcutaneously.

Owners were asked to continue the treatment for a minimum of 3 months after which they were asked to complete a questionnaire to assess the efficacy of treatment. They were asked to score the degree of improvement in symptoms as being one of: 0, 25, 50, 75, 90 or 100% improvement. If improvement was seen, they were asked to state whether it had occurred within 2 weeks, between 2 and 6 weeks or after 6 weeks from the start of treatment.

To date 198 cases of COPD, urticaria or headshaking have been treated and the results are presented. The majority of these comprise cases referred by other veterinary surgeons but some are cases seen as a first opinion by the author's practice and generally have been poorly controlled by the usual techniques. Many had symptoms for a long time. Additionally small numbers of horses with sweet itch and non-specific allergic dermatitis or atopy have been treated.

Detailed results will be presented, but in summary, of the 60 cases of COPD the results after 3 months of treatment were obtained for 49. Included in these figures are 11 cases that were principally symptomatic in the summer or at grass. Sixty seven per cent of all COPD cases showed at least a 75% improvement in symptom severity.

Of 46 cases of Urticaria, follow up was obtained for 38 cases. A 75% improvement in symptom severity was found in 90% of cases.

41 cases of Headshaking were treated and results were obtained for 32. A 75% improvement of symptom severity was found in 37% of cases.

A discussion will be presented of the technique and results to address the question of whether or not the treatment can be considered effective.

References

Boris, M., Weindorf,S. and Schiff, M. (1988) Low dose antigen therapy alleviates asthma. *Otolaryngol Head Neck Surg.* **98**, 539-546.

Gerrard, J.W. and King, D.S. (1989) A double-blind study on the use of low-dose immunotherapy in the treatment of asthma and allergic rhinitis. *Clin. Ecol.* **6**, 43-46.

King, W.P., Rubin, W.A., Fadal,R.G., et al (1988) Provocation-neutralization: a two-part study. Part I- The intracutaneous provocative food test: A multicentre comparison study. Part II - Subcutaneous neutralization therapy: a multicentre study. *Otlaryngol Head Neck Surg.* **99**, 263-277.

Lee, C.H.(1961) A new test for the detection of food allergies, pollen and mould incompatibilities. *Buchanan Co Med Bull.* **25**, 9.

Mansfield, J.R., Burrell, M.H., Curl,V.J. and Valler,B.J. (1998) Treatment of equine allergic disease with allergy neutralization. A field study. *J. of Nutritional and Environmental Med.* **8**, 329-334.