



ALLERGEN-SPECIFIC IMMUNOTHERAPY (ASIT) AN UNDERUSED THERAPY IN DOGS & CATS?



During the most recent World Congress of Veterinary Dermatology, one lecture was dedicated to answering the question ‘**Allergen-specific immunotherapy – does it still have a role?**’¹ - a pertinent question given the additional, highly effective therapeutics that have become available in recent years.

The conclusion?

ASIT...

“...should remain a foundational and important part of a multimodal treatment approach”.

“...remains the only treatment for allergy that can modify, or reverse, at least part of the pathogenesis of this condition as we know it – both alleviating clinical signs and preventing progression in the process”.

“...offers an alternative to the possible long-term adverse effects of a lifetime of drug treatment, with minimal chance for its own adverse effects, and with the potential of long-lasting effectiveness”.

This is in accordance with the [International Committee on Allergic Diseases of Animals \(ICADA\)](#) guidelines, which state:

“Allergen-specific immunotherapy and proactive intermittent topical glucocorticoid applications are the only interventions likely to prevent or delay the recurrence of flares of AD [atopic dermatitis]”.²

“Allergen-specific immunotherapy is an effective and safe way to reduce the clinical signs of AD in dogs.”³

A very recent publication (Flanagan *et al.*, 2021) surveying 827 primarily first-opinion vets, found that **approximately two-thirds of vets indicated either agreement, or strong agreement, that allergen testing and ASIT should be considered in all canine atopic dermatitis (AD) cases** (with severe signs lasting >3mths of year).⁴ However, they also discovered that only 44.3% of vets recommended ASIT routinely for dogs, with even less doing so (16.0%) for cats. In addition, Tater *et al.* (2017), reviewed data from 2557 dogs and 121 cats and found that 42% of patients did not start ASIT after allergen testing and that ASIT was not re-ordered in nearly a third of cases.⁵



This leads to the next set of questions: **if there are clear, current and credible recommendations for the routine use of ASIT in dogs with atopic dermatitis, why is it not used more often and why is it discontinued after starting?** Fortunately, there are some recent publications available to help provide some answers.

PERCEIVED BARRIERS TO THE USE OF ASIT

A 2020 pilot study (Flanagan *et al.*, 2020), plus a larger follow-up survey in 2021 (Flanagan *et al.*, 2021), set out to investigate attitudes regarding ASIT use in first-opinion practitioners.^{4,6} Three key factors identified as reasons for not recommending ASIT to clients were:

- 1. The availability of pharmaceutical management**

This raised the question of whether owners were fully aware of the mechanisms of action for ASIT and understood the benefits, especially its preventative role, in the management of AD, particularly as part of a multi-modal approach.

- 2. The perception that ASIT does not decrease drug dependence.⁶**

This misconception highlighted another education gap as it is in discordance with current available evidence.⁶ It was also found that the majority of respondents generally perceived ASIT to be less effective than the evidence reports.⁴

- 3. Client concern for cost (both for allergen identification and ASIT);**

The authors suggested owners should be fully appraised of the cumulative costs over the pet's lifetime associated with long-term pharmaceutical management (including necessary laboratory testing for drug monitoring purposes)⁶ this may enable a more accurate comparison to be made when evaluating the options for this life-long condition.

THE IMPORTANCE OF COMPLIANCE

Going back to the significant number of cases that do not re-order ASIT, it was suggested that owners may not understand the need to continue beyond the initial order.⁵ Data from 145 dogs (Ramíó-Lluch *et al.*, 2020) found that **treatment duration strongly correlated with treatment efficacy**. In those treated for >12 months the efficacy was reported as 65%, with 87% being able to reduce other medications; this compared to a 22% efficacy

and only 39% decreasing drug dependency in those dogs treated for <12 months. The mean time for the onset of improvement after commencing ASIT was found to be 5 months (+/- 2 months).⁷ Again, this is in agreement with the ICADA guidelines which state **“because the onset of clinical benefit might not appear for months, ASIT must be continued for at least one year to properly evaluate its efficacy”**.³

The study from Ramió-Lluch *et al.* (2020) concluded that: **lack of owner compliance** was the main factor reducing the effectiveness of ASIT and that **better education on ASIT mechanisms**, before commencing therapy, was required; more specifically, that clients understood that ASIT worked by retraining the host immune response and so expected and accepted the time interval before seeing a response.

OTHER NOTABLE TRENDS

Of additional interest in this study, no correlation was seen between efficacy and either the number or the type of allergens selected for ASIT (which were chosen after allergen-specific IgE testing); nor was any difference noted dependent upon the breed, sex or age of the dogs.⁷ Age was, however, found to influence whether dogs were prescribed ASIT.⁵ Size of dog, geographical location and practice type also had an impact on this, with canine patients >8yrs and weighing 1-10kg less likely to initiate the therapy.⁵ It was hypothesised that the relatively cheaper cost of dose by weight medications, may have been a factor for owners of smaller dogs. With regards to the age discrepancy, it was suggested that the long-term nature of disease may make ASIT more desirable in younger patients.⁵ The survey was also US based and it was noted that common dosing schedules for smaller dogs often involved more frequent injections (of smaller volumes) comparatively, so this additional inconvenience may also have contributed.

The confidence and knowledge to adjust ASIT dosing to the individual needs of the patients may itself be a factor in aiding compliance. This is important to consider as the ICADA guidelines state *“injection frequencies and amounts injected must be tailored to each patient depending upon the clinical improvement observed and the presence of adverse events.”*³

THE NEED FOR RAPID CONTROL OF CLINICAL SIGNS

Another point raised was whether owners may incorrectly perceive the therapy as ineffective; either because the initial pruritus was not controlled (while waiting for the onset of action for ASIT), or if secondary factors (such as infections) had led to a flare-up.⁵ **Rapid control of clinical signs with symptomatic therapy, during the early stages of ASIT use, was felt to be very important to owners and key to long-term compliance.**^{4,5} The ICADA guidelines concur, stating *“because of the delay in the onset of its beneficial effects, anti-inflammatory drugs should be given temporarily, as needed to maintain good quality of life, until such time as the ASIT is judged to be effective”*.³ **Educating owners so they understand that pruritus does not necessarily equate to treatment failure, and thus ensuring their expectations are correctly set, was also highlighted as important.**⁵



TOP 3 REASONS STATED FOR RECOMMENDING ASIT

1. **Concerns regarding the side effects of steroids (similar concerns for cyclosporin and oclacitinib were also listed as common motivating factors);**
2. **Animal/owner quality of life;**
3. **The risk of antimicrobial resistance - studies have shown decreased incidence of secondary yeast and bacterial infections in 60-72% of dogs with AD on ASIT.⁶**

CONCLUSION

An interesting, but perhaps not surprising, statistic was that both **initiation of ASIT and re-ordering was found to be highest in dermatology practice.**⁵ You would perhaps expect that clients willing to invest time and money seeking specialist guidance are, by nature, inherently more likely to adhere to recommendations and weigh up all of the options; some may also have been specifically referred for intradermal testing and ASIT. It was suggested that the positive association could be explained by patient selection, client education and motivation.⁵

Another key finding was that many **first-opinion practitioners expressed interest in further education** regarding: ASIT mechanisms, potential prevention of neo-sensitisation (gaining additional sensitivities) through use of ASIT, and the advantages of incorporating ASIT into long-term management versus using symptomatic therapies alone.⁴ This additional knowledge gain could enable more in-depth conversations with owners, so their expectations are met, and aid in determining which animals are good candidates for ASIT.⁴

HOW CAN WE HELP YOU?



Given the current significant pressures within UK first-opinion practice, finding the additional time required to provide in-depth support to multiple owners can be extremely difficult. **This is where we would like to help.**

Specifically in relation to this blog, you may find our '[Client ASIT Injection Guide](#)' (stepping through how to safely give injections) and '[The Canine Skin Allergy Journey](#)' blog (designed to take owners through all the steps involved in managing their pet's allergy), particularly useful; please log in to our [Practice Portal](#) to access these downloadable documents and a wealth of other resources.

If you have any ideas for vet or owner educational resources that would make life that little bit easier (handouts, blogs, webinars, owner videos or anything else!), or have any feedback on resources we already offer, please let us know.

We will always do our best to support you and your clients however we can.

REFERENCES

1. DeBoer, D.J. (2020). Allergen-specific immunotherapy -- does it still have a role? In Proceedings of the 9th World Congress of Veterinary Dermatology, Sydney 2020; 23-25.
2. Olivry, T., DeBoer, D.J., Favrot, C. et al. (2015). Treatment of canine atopic dermatitis: 2015 updated guidelines from the International Committee on Allergic Diseases of Animals (ICADA). BMC Veterinary Research; 11:210.
3. Olivry, T., DeBoer, D.J., Favrot, C. et al. (2010). Treatment of canine atopic dermatitis: 2010 clinical practice guidelines from the International Task Force on Canine Atopic Dermatitis. Veterinary Dermatology; 21:233–48.
4. Flanagan, S., Schick, A., Lewis, T.P. et al. (2021). A survey of primary care practitioners' referral habits and recommendations of allergen-specific immunotherapy for canine and feline patients with atopic dermatitis. Veterinary Dermatology; 32(2):106-e21.
5. Tater, K.C., Cole, W.E. & Pion, P.D. (2017). Allergen-specific immunotherapy prescription patterns in veterinary practice: a US population-based cohort study. Veterinary Dermatology; 28(4):362-e82.
6. Flanagan, S., Schick, A. & Lewis, T.P. (2020). A pilot study to identify perceived barrier and motivating factors of primary veterinarians in the USA for specialty referral and management of atopic dermatitis with allergen-specific immunotherapy. Veterinary Dermatology; 31: 371-e98.
7. Ramió-Lluch, L., Brazís, P., Ferrer, L. et al. (2020). Allergen-specific immunotherapy in dogs with atopic dermatitis: is owner compliance the main success-limiting factor? Veterinary Record; 187: 493-493.