Thierry Olivry's Newsletter n°1
05 October 2020

Preamble

Dear colleagues,

I was honored to be asked by Nextmune to generate a cyclical newsletter for its international customers. I am thus happy to welcome you to this periodic bulletin: I envision it to provide evidence-based answers to recurring questions asked by veterinarians, and I will also sometimes share pertinent information from newly-published articles or specialty congresses. This newsletter's primary goal is to help YOU, small animal and equine practitioners, better care for your patients with allergic diseases. Through these updates, I hope to share my enduring passion for allergies and atopic dermatitis, and that the provided information will be of use and interest.

Respectfully,

Thierry Olivry, DrVet, PhD, DipECVD, DipACVD
Research Professor of Immunodermatology
NC State University College of Veterinary Medicine, Raleigh, North Carolina, USA

Scientific Advisor and Dermatology & Allergy Consultant
Nextmune, Stockholm, Sweden

Can I perform IgE serology or intradermal testing when my patient is treated with glucocorticoids, cyclosporine, oclacitinib, or lokivetmab?

This question is highly relevant to daily veterinary practice, as most pets with active clinical signs are already treated with anti-allergic drugs by the time the discussion arises whether or not to test for IgE sensitivities before starting allergen immunotherapy.

In 2013, under the auspices of the International Committee of Allergic Diseases of Animals (ICADA), my friend Manolis Saridomichelakis from the University of Thessaly, Greece, and I published an evidence-based review of the withdrawal times for anti-allergic drugs before allergen-specific intradermal or IgE serological testing is performed in dogs (Olivry and Saridomichelakis, Vet Dermatol 2013).

After reviewing the then-available evidence at the time of publication, we synthesized the results in a single table.

	Drug example	Optimal withdrawal times (days)	Minimal withdrawal times (days)
Intradermal tests			
Antihistamines (oral)	hydroxyzine, cetirizine	7	2
Glucocorticoids (short-acting oral)	prednisone, prednisolone	14	unknown
Glucocorticoids (long-acting injectable)	methylprednisolone acetate	unknown	28
Glucocorticoids (topical)	hydrocortisone, triamcinolone	14 (strong potency)	0 (weak potency)
Glucocorticoids (otic)	betamethasone, mometasone	14	0
Ciclosporin (oral)	ciclosporin	0	0
Tacrolimus (topical)	tacrolimus	0	0
Pentoxifylline (oral)	pentoxifylline	0	0
Ketoconazole (oral)	ketoconazole	0	0
Essential fatty acids (oral)	essential fatty acids (various)	0	0
IgE serological tests			
Antihistamines (oral)	not tested	unknown	0
Glucocorticoids (short-acting oral)	prednisone, prednisolone	0	0
Glucocorticoids (long-acting injectable)	methylprednisolone acetate	< 28	unknown
Glucocorticoids (topical or otic)	not tested	unknown	0
Ciclosporin (oral)	ciclosporin	0	0

In the third column, the "optimal withdrawal times - OWTs" are those proven, or very likely, to have no interference with test results. In the rightmost column, we defined "minimal

withdrawal times -MWTs" as the times that might, at most, be associated with a small inhibitory effect, but that should not interfere with the interpretation of test results.

There are obviously missing newer medications from this table: oclacitinib (Apoquel, Zoetis) and lokivetmab (Cytopoint, Zoetis), but they were not commercially available at the time when our review was conducted.

I thus searched my favorite databases and congress abstracts to find the needed information. At the 2015 North American Veterinary Dermatology Congress, colleagues from Michigan State University clearly established that oclacitinib did not interfere with the interpretation of either IDT or IgE serology. At the 2016 World Congress of Veterinary Dermatology, a Zoetis-performed study showed that, in a dog model of house dust mite allergy, lokivetmab had no inhibitory effect on either IDT or IgE serology, an expected finding due to this biologic's selective mode of action.

For both oclacitinib and lokivetmab, I would therefore assess the MWTs as “0” for both intradermal and IgE serological testing, meaning that *one can perform both forms of testing when dogs are treated with oclacitinib and lokivetmab, as shown above for ciclosporin.*

And what about cats? You might ask. Unfortunately, my literature and abstract search came back almost empty. I could only identify one paper reporting findings in an experimental model of allergic asthma in cats (Chang, Vet Immunol Immunopathol 2011). In that study, oral prednisolone and inhaled budesonide interfered with IDT results, but not with serology. I thus propose OWTs of 14 and 0 days for IDT and serology, respectively; these times are the same for dogs (see above table).

Regrettably, I could not locate any data to determine the ciclosporin and oclacitinib withdrawal times before IDT or IgE serological testing in cats. Still, *there is no reason to suspect that times would be any different than those in dogs* – after all, shouldn’t a drug’s mechanisms of action be the same across species?

So, to answer the initial question, my reply will be my favorite one: “*it depends*!” Indeed, withdrawal times will always depend upon a drug’s mechanism of action, and likely it’s dosage. **Glucocorticoids and type 1 antihistamines generally will interfere with IDT results**. Meanwhile, **ciclosporin, oclacitinib, and lokivetmab should not affect skin test results at the dosages routinely used to treat pets with allergies**. Finally, **none of these drugs will typically impact IgE serology results**, **so dogs (and likely cats) can have sensitization blood tests done at any time!**