

Treatment for Atopic Dermatitis

*Key points to consider are patient specifics, cost, owner/pet compliance, and owner preference

Atopic dermatitis allergy testing

- Serum allergy testing or intradermal allergy testing
 - Can't be used to distinguish a healthy animal from an allergic animal
 - If you do this testing the owner should be willing to commit to allergen-specific immunotherapy or it was a waste of money
 - This process can take up to a year and is a big commitment
 - Effective in ~ 60% of animals
 - Do NOT do this to diagnose atopic dermatitis, this should only be done once we have made our diagnosis

Allergen-specific immunotherapy

- Allergen vaccines are customized to the patient's test results and known exposures
- Regular inoculations of small quantities of allergen subcutaneously or sublingually
- Goal is to desensitize the immune system
 - Increase Treg lymphocytes and IL-10
 - Helps to decrease hypersensitivity reactions as a whole
 - Allergen-specific IgG coats the allergens and prevents them from interacting with other cell types
- This is the only therapy that can induce a long-term change in the immune response
- Well tolerated with a low risk of anaphylaxis

Pharmacologic Therapy – Split into acute vs chronic therapies with some overlap

Acute Flares: Prednisone

Chronic Management: Cyclosporine A (Atopica/Cyclavance)

Overlap" Oclacitinib (Apoquel), Lokivetmab (Cytopoint)

Drug	MOA	Indication	Adverse Effects	Dose
Corticosteroid (prednisolone)	Broad anti-inflammatory, acts on a large variety of inflammatory pathways Very effective because it is untargeted	Short-term remedy for acute flares of atopic dermatitis	PU/PD/PP Cutaneous changes Disrupts collagen in cats (ear folds and feline skin fragility syndrome) Interactions w/ other meds (NSAIDs)	Anti-inflammatory dose: 0.5-1 mg/kg/q24h Ideal to taper down to 0.5 mg/kg EOD *Only use oral steroids!

Oclacitinib (Apoquel)	<p>JAK (janus kinase) inhibitor mainly inhibiting the JAK1 and JAK3 pathways controlling inflammation</p> <p>Inhibits activity of inflammatory and pruritogenic mediator that use JAK1 and JAK3 pathways such as IL-31</p> <p>End result: Inhibition of the intracellular signaling cascade that releases pro-inflammatory and pruritogenic mediators</p> <p>*Minimal anti-inflammatory impact -not great for otitis externa, also not great for managing itch due to a secondary infection</p>	<p>Pruritus due to atopic dermatitis</p> <p>Acute and chronic atopic dermatitis</p>	<p>May precipitate demodicosis</p> <p>GI issues, occasional reports of anemia and leukopenia</p> <p>Contraindicated in puppies <1yr of age, dogs with neoplasia, dogs with deep pyoderma, and dogs with a history of demodicosis</p> <p>*may be used in the future for cancer treatment in cancers that use janus kinase</p>	<p>0.4-0.6 mg/kg/q24h</p> <p>Effective in managing itch in ~75% of dogs</p> <p>labeled for dogs but have been used off label in cats, require a higher dose @ an increased frequency 0.6-1mg/kg/q12h</p>
Lokivetmab (Cytopoint)	<p>Caninized monoclonal antibody that targets IL-31(canine IgG backbone)</p> <p>Reduces quantity of circulating IL-31 and IL-31 receptors on nerve endings</p> <p>Rapid onset of action – most dogs respond within hours but some may take 1-5 days</p> <p>No anti-inflammatory action</p>	<p>Pruritus associated with acute and chronic atopic dermatitis</p>	<p>No known side effects or drug interactions</p> <p>Drug is degraded and eliminated in the bloodstream</p> <p>Small % of dogs can develop antibodies against lokivetmab which decreases its efficacy</p>	<p>1-2 mg/kg SQ q4-8 weeks</p> <p>Basically 1mg/lb and round up</p> <p>Available in 10, 20, 30, and 40 mg vials</p> <p>Efficacious in ~75% of dogs</p>
Cyclosporine (Atopica, Cyclavance)	<p>Calcineurin inhibitor – inhibits T cell synthesis of numerous inflammatory and pruritogenic cytokines</p> <p>Slow onset of action (2-4 weeks in dogs, 1-2 weeks in cats)</p>	<p>Pruritus associated with acute and chronic atopic dermatitis</p> <p>Has anti-inflammatory properties</p>	<p>\$\$\$</p> <p>Combining with azole medications can effectively reduce overall dosage used</p> <p>Vomiting, diarrhea, inappetence in 25% of dogs/cats</p>	<p>Canine: 5 mg/kg/ q24h Feline: 7mg/kg/q24h</p> <p>May be able to taper to EOD or 2-3x weekly</p> <p>Efficacious in ~80% dogs and cats</p>

		<p>Used as a second-tier drug and long-term management of the disease</p>	<p>*Can freeze which helps with the GI signs, giving with a meal or maropitant may also help</p> <p>Heavily metabolized by the liver > contraindicated in pets with liver dz</p> <p>Uncommon side effects: hirsutism, papillomas, gingival hyperplasia</p>	
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