Atopic dermatitis: helping maximise your chance of treatment success!

The Potters Heron Hotel
Wednesday 3rd December 2014

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Mildmay Veterinary Centre, Winchester
Timetable for this evening

• The multi-modal approach
  • Barrier repair
  • Infection control
  • Parasite prevention
  • Allergen avoidance
  • ASIT
  • Symptomatic therapy
    – Ciclosporin
    – Oclacitinib
    – Corticosteroid
    – Anti-histamine
    – EFAs
    – Topicals
  • Managing chronic disease vs. acute flares

• Case-based examples
  • Illustrating the need to tailor treatment to the individual – identifying major flare factors in each case is key to treatment success
  • Some cases require an emphasis on infection control, others on allergen avoidance, others on pruritus control

• Discussion
• Questions
The foundation of treatment success is based upon accurate diagnosis

- Atopic dermatitis is a CLINICAL diagnosis
- Detailed history-taking provides vital clues
- Consistent clinical signs
  - Age, breed, distribution
- Conscientious rule-outs of other pruritic dermatoses
  - Parasites
    - fleas/mites
  - Infection
  - Food allergy
In an ideal world – all dogs should undergo a food exclusion trial

- Hydrolysed diet
- Novel protein/carbohydrate diet
- Home cooked novel protein/carbohydrate diet
Guide to elimination diets

The Essential Guide To:
ELIMINATION DIET TRIALS

Thank you for agreeing to take part in an elimination diet trial to assist us in diagnosing your pet's skin condition. Feeding your pet an elimination diet is a diagnostic test and, just like any blood test or x-ray, it needs to be carried out correctly in order for the results to be worth your time and money.

Below are some guidelines which you will need to follow throughout the elimination diet trial period. Please follow them completely and ask our practice staff if you have any questions.

<table>
<thead>
<tr>
<th>RULE</th>
<th>REASON</th>
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| Feed only the diet we've recommended and give only water to drink! | We've chosen this diet as it doesn't include the ingredients which may be causing the reaction in your pet.
| Don't give any treats or chews. If you would like to feed between meal times, store a sample of food in a clean, sealed container or bag and reward from there. | If anything additional is eaten by your dog or cat, it risks causing a reaction, rendering the trial null and void. A full list of extras includes treats, raw treats, scraps, chew-toys, bones, supplements, tin-bits, table scraps, left-overs, biscuits, toast, tea/coffee and anything that passes your pet's lips. Be sure your pet doesn't raid the cupboard or bins.
| Don't use any flavoured medication or toothpaste. | Flavoured chewable tablets and supplements may contain substances which may interfere with the interpretation of the trial results.
| Feed your pet in a separate room from other pets in your household. | Sharing meals and taking from other pet's bowls is a common reason for diet trial failure. Even licking another pet's bowl or taking crumbs of their food (even in the water bowl) can interfere with the trial.

My pet's confession card:

We know you're going to make every effort to ensure no extras are eaten but with all the will in the world, sometimes your dog or cat may eat something apart from the trial diet. These mistakes can impact upon the results of the trial and for this reason we need to know if and when they have happened. Please be honest and 'confess' whether any treats, scraps, chew-toys, supplements, tin-bits, left-overs, flavoured supplements etc. have been consumed by your pet since their last visit:

<table>
<thead>
<tr>
<th>DATE</th>
<th>DESCRIPTION OF EXTRA(S) EATEN</th>
<th>AMOUNT EATEN</th>
<th>ANY REACTIONS (VOMITING, DIARRHOEA, SKIN REACTIONS ETC.)</th>
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*As soon as any food apart from the elimination diet is fed please notify your veterinary practice.*

- Take a detailed food history
- Manage the owners’ expectations
- Feed the diet for 6-8 weeks EXCLUSIVELY!
- Use handouts for reinforcement
- If there is improvement – “challenge” the dog with it’s previous diet or components thereof to monitor for relapse/recurrence of symptoms
Appropriate use of allergy testing
Avoidance/Immunotherapy
The multi-modal approach

• Barrier repair
• Infection control
• Parasite prevention
• Allergen avoidance
• ASIT
• Symptomatic therapy
  – Ciclosporin
  – Oclacitinib
  – Corticosteroid
  – Anti-histamine
  – EFAs
  – Topicals
1. Barrier repair

- **Impaired barrier function**
  - Increased allergen entry
  - Increased water loss
The cycle of events

Defective barrier

Allergen in

Inflammation

Infection

ITCH/SCRATCH

STRESS!!
Improving barrier function

- **Diet**
  - Many dietary factors influence skin function
  - Sub-optimal nutrition affects the skin
- **Essential fatty acid supplementation**
- **Topical lipids**
- **Shampoos/sprays/topical emollients**
2. Infection control

Infection is EXTREMELY common
Infection commonly increases pruritus

For some atopic dogs, infection control forms the mainstay of treatment

CYTOLOGY improves diagnosis and treatment (Pyoderma or Malassezia??)
Targeted treatment of infection

- **Systemic therapy**
  - Oral antibiotics
  - Oral anti-fungals

- **Topical therapy**
  - Shampoos
  - Sprays
  - Wipes
  - Gels
3. Parasite prevention

- Imperative!

- Fleas are a common flare factor – many atopic dogs are also flea allergic (~80%)

- All in contacts and the environment should be treated

- Tailor the product to the patient
Threshold theory

- Sequences of stimuli that alone are inadequate to cause pruritus, may do so cumulatively
- Identifying and managing the major flare factors for each case becomes key in treatment success
- PARASITES, INFECTION, FOOD
4. Allergen Avoidance

COMMON ALLERGENS FOR DOGS

- Dog hair
- Dander
- Feces
- Mite
- Grass pollen
- Tree pollen
- Nut pollen
- Food allergens
- Insect bites
- Skin products
- Cleaning products

Dogs and cats can be exposed to these allergens in their environment, which can trigger allergic reactions in sensitive individuals. It's important to identify and avoid these allergens to alleviate symptoms.
Consider peak exposure patterns

www.polleninfo.org gives two-weekly updates on pollen counts/distribution

<table>
<thead>
<tr>
<th>Flowering period</th>
<th>Months</th>
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<th>M</th>
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<tr>
<td>1 Festuca pratensis</td>
<td>Meadow fescue</td>
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<tr>
<td>2 Dactylis glomerata</td>
<td>Orchard grass</td>
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<td>3 Lolium perenne</td>
<td>Rye perennial</td>
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<td>4 Phleum pratense</td>
<td>Timothy</td>
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<tr>
<td>5 Poa pratensis</td>
<td>Blue Kentucky</td>
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| MITES            |        |   |   |   |   |   |   |   |   |   |   |   |   |
| 6 House dust mite mite |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7 Storage mite   |   |   |   |   |   |   |   |   |   |   |   |   |   |

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<tr>
<th>Flowering period</th>
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<td>8 Urtica dioica</td>
<td>Nettle</td>
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<tr>
<td>9 Chenopodium album</td>
<td>Lambs quarter</td>
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<tr>
<td>10 Plantago lanceolata</td>
<td>Plantain, English</td>
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<tr>
<td>11 Artemisia vulgaris</td>
<td>Common mugwort</td>
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<td>12 Parietaria officinalis</td>
<td>Pellitory</td>
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</tbody>
</table>

| TREES            |        |   |   |   |   |   |   |   |   |   |   |   |   |
| 13 Betula pendula | Birch, white |   |   |   |   |   |   |   |   |   |   |   |   |
| 14 Corylus avellana | Hazelnut |   |   |   |   |   |   |   |   |   |   |   |   |
| 15 Salix viminalis | Willow |   |   |   |   |   |   |   |   |   |   |   |   |
Allergen Avoidance Measures

House dust mites

- Keep out of bedroom (house dust mites in large numbers!)
- Use filtered vacuum cleaner (HEPA filter)
- Use air dehumidifier
- Use hypoallergenic bedding (and covers)
- Avoid stuffed toys (place in deep freeze monthly)
- Wash bedding at >70°C, and wash regularly
- Wash soft furnishings regularly
- Avoid drying clothes indoors (reduce air humidity)
- Use anti-dust mite sprays (e.g. Indorex household flea spray) every 3-6 months
- Acarosan

Storage Mites (grain mites)

- Keep food stuffs stored in sealed containers (especially dry animal feed)
- Do not allow moulds to develop
- Reduce humidity (keep dry and free of moisture)
5. Immunotherapy

- A form of desensitisation therapy aimed at changing the immune response
- The administration of gradually increasing concentration of allergen extracts to induce “tolerance” in the affected individual
- Available as injectable/SLIT
- Up to 70% of dogs may improve by 50% or more over time
- It takes many months to become effective
- Treatment is usually life-long
Where does immunotherapy fit in to allergy treatment?

Combined approach best

**Immunotherapy**
- Allergen avoidance
- Barrier repair
- Controlling infections

**Symptomatic** e.g.
- anti-inflamm/anti-itch medications

**Atopic dermatitis**
The combined approach - summary

Combined approach best

- Atopic dermatitis

Immunotherapy
- Allergen avoidance
- Barrier repair
- Control flare factors

Symptomatic therapy
- Ciclosporin, steroid, oclacitinib, antihistamines, EFAs, topicals etc

Injectable IT

Sublingual IT
Are we able to use symptomatic therapy alongside immunotherapy – absolutely YES!

- Because immunotherapy may take many months to become effective – in most cases we need to institute some form of symptomatic therapy
  - Corticosteroid
  - Ciclosporin
  - Oclacitinib
- The measure of success of immunotherapy is based on the ability to taper/stop these additional medications over time

Combined approach best

Immunotherapy

- Allergen avoidance
- Barrier repair
- Controlling infections

Symptomatic e.g. anti-inflammatory/anti-itch medications
## SLIT - practicalities

<table>
<thead>
<tr>
<th>Week</th>
<th>Dosage</th>
<th>Time</th>
<th>AM/PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>1 pump</td>
<td>1 x day</td>
<td>AM</td>
</tr>
<tr>
<td>Week 2</td>
<td>1 pump</td>
<td>2 x day</td>
<td>AM &amp; PM</td>
</tr>
<tr>
<td>Week 3</td>
<td>1 pump</td>
<td>1 x day</td>
<td>AM</td>
</tr>
<tr>
<td>Week 4</td>
<td>1 pump</td>
<td>2 x day</td>
<td>AM &amp; PM</td>
</tr>
<tr>
<td>Week 5</td>
<td>1 pump</td>
<td>1 x day</td>
<td>AM</td>
</tr>
<tr>
<td>Week 6-21</td>
<td>1 pump</td>
<td>2 x day</td>
<td>AM &amp; PM</td>
</tr>
</tbody>
</table>
When?

- Needle adverse pets/owners
- Those who have developed adverse reactions/effects with injectable IT

Why?

- Owner has greater control
- May be viewed as a “treat” – good compliance
- May work more quickly (within 3 months)
- Fewer adverse effects?
- May be effective when injectable IT has failed
<table>
<thead>
<tr>
<th>Injectable immunotherapy</th>
<th>Sublingual immunotherapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injections are administered s/c</td>
<td>Drops are placed inside the cheek/under the tongue (not mixed with food/water)</td>
</tr>
<tr>
<td>Induction (0.2, 0.4, 0.6, 0.8, 1ml etc) over several weeks</td>
<td>Induction over 5 weeks – drops given once daily then twice daily</td>
</tr>
<tr>
<td>Maintenance injection every 3-4 weeks</td>
<td>Maintenance drops given twice daily</td>
</tr>
<tr>
<td>Reactions may include pruritus, urticaria, injection site reactions</td>
<td>Reactions may include pruritus or face-rubbing</td>
</tr>
<tr>
<td>Lethargy, vomiting or diarrhoea may occur</td>
<td>Lethargy, vomiting or diarrhoea may occur</td>
</tr>
<tr>
<td>Anaphylaxis is extremely rare</td>
<td>Anaphylaxis is unreported</td>
</tr>
<tr>
<td>May be effective in patients that have “failed” injectable immunotherapy</td>
<td>May be effective/safer in patients that have shown adverse effects with injectable immunotherapy</td>
</tr>
<tr>
<td>8-10 allergens per vial</td>
<td>12 allergens per vial</td>
</tr>
<tr>
<td>Each vial lasts approx 10 months</td>
<td>Each vial set lasts approx 5 months</td>
</tr>
</tbody>
</table>
How to define success of Immunotherapy

- >50% reduction in clinical signs/pruritus
- >50% reduction in symptomatic therapy requirements
- Encourage owner to keep a diary and take photographs
- Immunotherapy may take many months to become effective
- If effective – continue for life. If not – stop!

Before treatment

After treatment
Consider the use of a pruritus scale or other similar tools.
6. Symptomatic therapy

- Ciclosporin
  - Atopica
  - Sporimmune
  - Cyclavance

- Oclacitinib
  - Apoquel

- Corticosteroid
  - Prednisolone
  - Methyl prednisolone

- Topical steroid
  - Hydrocortisone aceponate
    - Cortavance
  - Betamethasone
    - Fuciderm gel

- Anti histamines
  - Hydroxyzine
  - Chlorpheniramine
  - Clemastine

- Topical emollients/anti-pruritics
Cases!
“Willow”
2yo FN Boxer

6 mth history of pododermatitis + facial pruritus
Biopsy confirms deep pyoderma
IDAT +ve HDM/SM
10 wk antibiotic therapy based on C+S
Clorexyderm spot gel + CLX wipes

SLIT + skin hygiene measures + barrier function repair (Wafcol S+P)
Managed now for 3 years 😊

Atopic + 2-ary pyod
“Digby”
3yo MN Labradoodle

• 1 year hx bilateral *Malassezia* otitis externa + facial pruritus
• GI issues (flatulence/8 stools)
• Food trial: Anallergenic – GI symptoms resolve, but pruritus/otitis continues
• Artu allergy testing: +ve HDM/SM/pollens
• SLIT+ ear hygiene measures
• Atopic + food allergic + 2-ary *Malassezia* otitis externa
• Occasional (1-yearly) flare in otitis – otherwise well managed on diet, ASIT, ear hygiene 😊
“Harrison” 2yo MN Golden retriever

- 3 month history of mild to moderate pruritus
- Dry scaling
- Mild pinnal erythema
- Superficial pyoderma
- Skin barrier repair (diet)
- Emollient /medicated shampoo therapy
- Well managed for 2 years with diet and topicals😊
- Mild atopic + ichthyosis
“Molly”
4 yo FN
Cockerpoo

- 2 year history of intermittent pruritus (feet, face, perineum)
- GI issues: flatulence, frequent stools
- Diet trial (novel protein) – GI issues resolve, facial pruritus resolves, pedal pruritus
- Perineum pruritus continues
- Allergy testing: HDM/SM/pollens
- ASIT – failed after 18 mths
- Oclacitinib (Apoquel)
- Episothee/Cortavance
- Atopic + food allergic – managed with diet + symptomatic therapy/topicals
“Kizzy” 18mth FN SBT X

- Rescue dog-found roaming the streets
- 6 wk history (since IOP) of generalised pruritus
- Sarcoptes +ve
- Stronghold q 2 wks x 3 + Indorex environment
- No improvement in pruritus
- Food trial RC hypo – no response
- Artu allergy testing: multiple +ves
- ASIT: significant improvement after 9 months – Apoquel used to control pruritus initially then tapered over time
- Atopic dog (?false +ve Sarc)
Threshold theory

- Sequences of stimuli that alone are inadequate to cause pruritus, may do so cumulatively
- Identifying and managing the major flare factors for each case becomes key in treatment success
- PARASITES, INFECTION, FOOD

Pruritic threshold
Maximising treatment success – key ingredients:

- Accurate diagnosis in the first place!
  - History taking, clinical examination, ruling out other pruritic dermatoses including food allergy/food induced disease
- Appropriate use of allergy testing
- Allergen avoidance
- Immunotherapy
- Infection control to include skin and otic hygiene measures
- Parasite prevention
- Barrier repair
- Symptomatic treatment when necessary

Teasing out the major components of each individual patient’s disease takes time. Client communication and regular review is critical.
The combined approach - summary

Combined approach best

- Atopic dermatitis
- Allergen avoidance
- Barrier repair
- Immunotherapy
- Control flare factors
- Symptomatic therapy
- Injectable IT
- Sublingual IT
- Ciclosporin, steroid, oclacitinib, antihistamines, EFAs, topicals etc
BVDSG membership benefits

- Friendly study group promoting veterinary dermatology
- Membership fee only £30/annum
- High quality, fun, good value for money CPD
- Very highly regarded national & international speakers
- Digital Proceedings, past proceedings on website
- DermNews
BVDSG Future Meetings

• Spring 2015:
  Feline, equine and large animal dermatology with Danny Scott

• Autumn 2015:
  Autoimmune diseases with Thierry Olivry, Nat Whitley, David Shearer and others

http://www.bvdsdg.org.uk
The combined approach - summary

Combined approach best

Atopic dermatitis
Immunotherapy

Injectable IT
Sublingual IT

Symptomatic therapy
Ciclosporin, steroid, oclacitinib, antihistamines, EFAs, topicals etc

Allergen avoidance
Barrier repair
Control flare factors