

Top 10 tips to help for avoiding derm disasters

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Cytology

1. Cytology is one of the most important diagnostic tools we have and is required for almost every case to guide the next steps and make treatment decisions.
2. Cytology is essential and does give us critical information but remember that is just one piece of the puzzle and it does not give the answer for the whole story.
3. Learn how to take samples from various types of lesions and affected areas.
 - a. Impression smears
 - b. Tape
 - c. Swabs
 - d. Fine needle aspirates.
4. Learn how to interpret basic skin and ear cytology in-house to guide your next steps and make treatment decisions at the time of the consultation.
 - a. Identify bacteria – cocci and rod-shaped bacteria.
 - b. Malassezia
 - c. Inflammatory cells – neutrophils, eosinophils, macrophages.
 - d. Identify other cells and structures, e.g. fungal arthrosporous, acantholytic keratinocytes.
5. Charge for cytology to account for the extra skill and time it takes.
 - a. Consider charging for a dermatology consult which includes cytology removes the option for owners to decline.
6. Train an interested nurse to assist.
 - a. Nurses can take samples for cytology, stain and read the slides.
 - b. Increases the time available for the vets to discuss diagnostics and treatment plans.

Understand microbial dysbiosis and why it is important when deciding on treatment

1. Applies to the microbiome of the skin and ears in dogs and cats with atopic dermatitis.
2. Decreased microbial diversity in individuals with atopic dermatitis.
3. *Staphylococcus pseudintermedius* and *Malassezia pachydermatitis* predominate.
4. Treatment with antimicrobials restores microbial diversity to an almost normal level, but when the antimicrobials stop the microbiome quickly reverts back to the unbalanced population it was before treatment.
5. The only ways to partially prevent this from happening are to:
 - a. Control the underlying disease - atopic dermatitis.
 - b. Manage and prevent inflammation.
 - c. Regular preventative maintenance with topical antimicrobials (e.g. medicated shampoo, leave-on products).
 - d. Skin barrier support:
 - i. Bathing
 - ii. Diet
6. Repeated treatment with systemic antimicrobials (antibiotics and antifungals) cannot be justified.
 - a. Increases the pressure for the development of antimicrobial resistance.
 - b. Unnecessary!

When is bacterial culture and sensitivity indicated for skin infections?

1. An empirical choice WITHOUT culture and sensitivity can be made, if necessary, when:
 - a. There are cocci identified on CYTOLOGY.
 - b. The skin infection is superficial.
 - c. There have been no antibiotics administered in the past three months.
 - i. There is no prior history of antibiotic resistance, e.g. MRSP, MDR.
2. Culture and sensitivity is indicated when:
 - a. Antibiotics have been administered in the last three months.
 - b. There is a prior history of antibacterial resistance.
 - c. Cocci are identified with CYTOLOGY at recheck after empirical treatment.
 - d. There are rod-shaped bacteria on CYTOLOGY.
 - e. Deep pyoderma is present.
 - f. There is a reason to suspect immune compromise.

Understand when an elimination diet trial (EDT) is indicated (and how to perform one to enable interpretation)

This will be covered in detail in the dermatology nutrition lecture

1. Indicated when a diagnosis of atopic dermatitis has been made and:
 - a. The dog/cat has NON-SEASONAL clinical signs.
 - b. Abnormal gastrointestinal signs may or may not be present.
 - c. Owner is motivated to assess their dog/cat for a possible food allergy.
 - i. Completely rely on owner compliance for a successful EDT.
2. Dogs of any age can develop food-induced atopic dermatitis (FIAD)/Cutaneous adverse food reaction.
 - a. 50% of dogs with FIAD are < six months of age at onset.

When and how to utilise an allergy test

1. Allergy tests are not diagnostic for atopic dermatitis.
 - a. The diagnosis of atopic dermatitis is based on a compatible history and clinical presentation and by the exclusion of other causes of pruritus.
2. Allergy tests are only accurate for environmental allergens NOT for food allergens.
 - a. Unfortunately, some blood allergy tests include a food panel, but these results are disregarded.
3. Allergy tests are only indicated for patients with environmental atopic dermatitis or allergic airway disease when the owner wants to start allergen specific immunotherapy (ASIT).
4. Allergy testing just for avoidance measures is not effective.
5. The purpose of an allergy test is to identify the environmental allergens that an individual is sensitised to.
 - a. These results are then used to decide which allergens to include in that individual's allergen specific immunotherapy formula.
6. Allergy testing can be performed in two ways:
 - a. An intradermal test performed by a dermatologist.
 - b. IgE serology test eg. Heska Allercept, Nextmune, VARL.
7. Not all allergy tests are equal.
 - a. Selected blood tests are valid and reliable so check with a dermatologist or lab first. Some of the reliable tests are:
 - i. Heska Allercept
 - ii. Nextmune
 - iii. VARL
 - iv. Greer
 - b. Hair, saliva and some blood tests are not valid tests.

Bathing dogs is an important part of management for many skin diseases.

A simple but effective tip is to use the pre-wash method when bathing dogs with medicated shampoo.

1. Medicated shampoo is generally not a good cleaning shampoo.
2. A pre-wash with a non-medicated shampoo cleans, degreases and removes scale crust etc.
3. Allows the medicated shampoo to penetrate to where it is needed, lathers up more readily and uses less.
4. Can use the medicated shampoo for more targeted therapy to focus on the problem areas.
5. Allowing a five-minute contact time for chlorhexidine is adequate.

Address inflammation of allergic skin and ears as the first priority

1. Treatment of secondary infection of the skin/ears alone will not be successful if inflammation is not also addressed.
2. Treatment for secondary infection is often not needed once inflammation is resolved (see Tip 2 above regarding microbial dysbiosis)
3. Reach for more potent anti-inflammatory medications when anything more than mild inflammation is present.
 - a. For acute management:
 - i. Glucocorticoids
 - Topical, e.g. mometasone, hydrocortisone acepionate (Cortavance ®)
 - Systemic
 - ii. Calcineurin inhibitors
 - Topical – tacrolimus, pimecrolimus
 - Systemic – cyclosporin (Atopica®)
 - b. For longer term management:
 - i. Glucocorticoids
 - Topical
 - ii. Calcineurin inhibitors
 - Topical – tacrolimus, pimecrolimus
 - Systemic – cyclosporin (Atopica®)
 - c. Reassess once the inflammation has resolved and then use safer long-term medications and manage the underlying allergic disease.
 - d. JAK-inhibitors
 - e. Lokivetmab
 - f. Immunotherapy
 - g. Identify and manage food allergy if present.
 - h. Skin barrier support
 - i. Topical glucocorticoid once – twice weekly for focal relapsing areas.

Measure the volume of ear medication when applying to the ear canal.

1. No more counting drops or squeezes of the bottle!
2. Use 1ml syringes and insert into the medication bottle (usually need to remove the dropper piece)
3. Approximate volumes:
 - a. Cats and small dogs: 0.3-0.5ml
 - b. Medium dogs: 0.5ml
 - c. Large dogs: 1.0 - 1.5ml
4. Adjust if the ear canals are stenotic.

Keep it dirty for biopsies!

Geoff will talk about this in more detail, but it is important not to disturb the surface of the skin for the vast majority of skin biopsies.

1. Don't clip the hair – trim with scissors if necessary.
2. Don't prep the skin surface – no scrubbing or wiping.
3. Put any crust, scale etc that falls off during taking the biopsy into the formalin.

Make a plan for the short- and long-term management and communicate this to the owner

1. Even better make the plan with the owner so they are part of the process.
2. Explain that atopic dermatitis is a chronic, relapsing disease and lifelong management is needed.
3. Explain that the first stage of management is to achieve remission and second stage is proactive preventative management.
 - a. If this can't be achieved, then reassess and review.
 - b. Consider referral to a dermatologist.
4. Avoid having disgruntled owners that constantly feel like they are coming back for the same problem and that nothing is working.