Atopic Dermatitis in the Dog

Rebecca Bassett

Specialist Veterinary Dermatologist

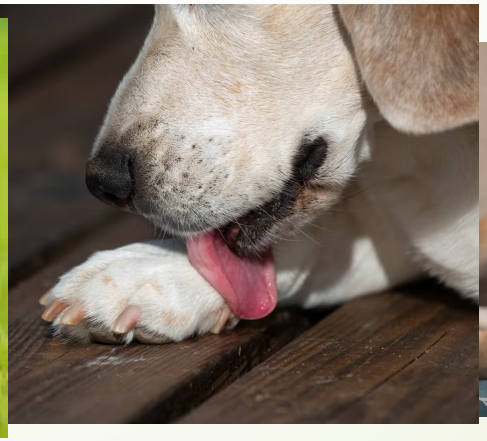
BScAgr (hons), BVSc (hons), MANZCVS (canine medicine), FANZCVS (dermatology)

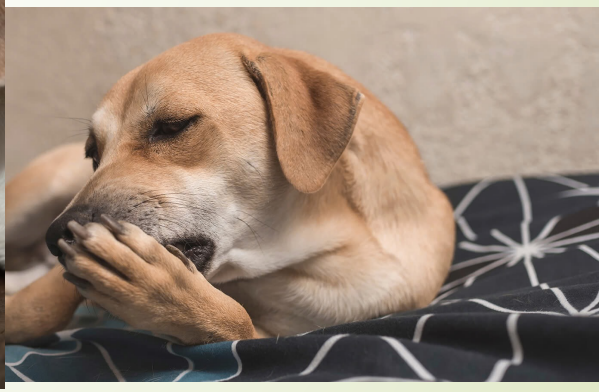
Melbourne Veterinary Specialist Centre

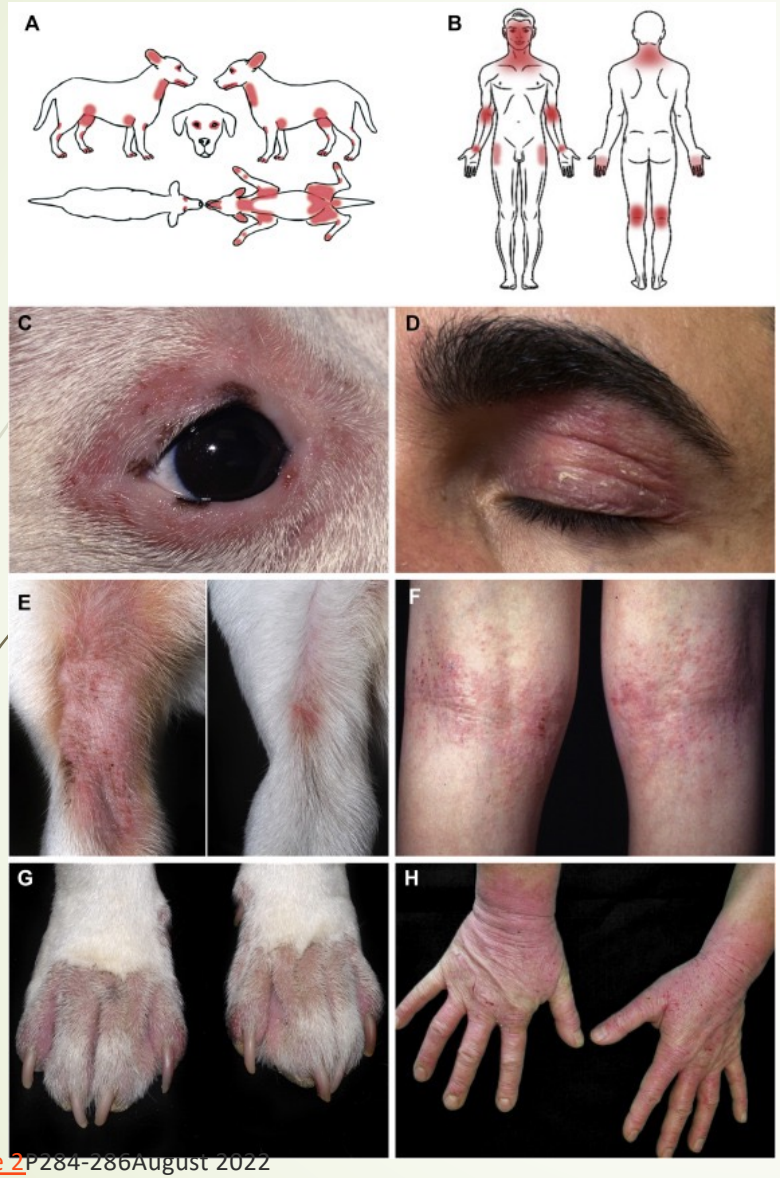
Pathogenesis: Allergic Pruritus and Infections

- Global differences in canine genetic base
- Barrier dysfunction
  - allergen penetration across epidermis
  - Atopic k/c have higher cocci, Malassezia adherence = infections
- Genetic mutations
  - Antimicrobial peptides
  - Filaggrin
  - Ceramides
  - Tight junctions
- Th1/Th2
  - IgE tests

How does a dog show itch?







JCAI: Volume 150, Issue 2P284-286August 2022

Clinical Presentations

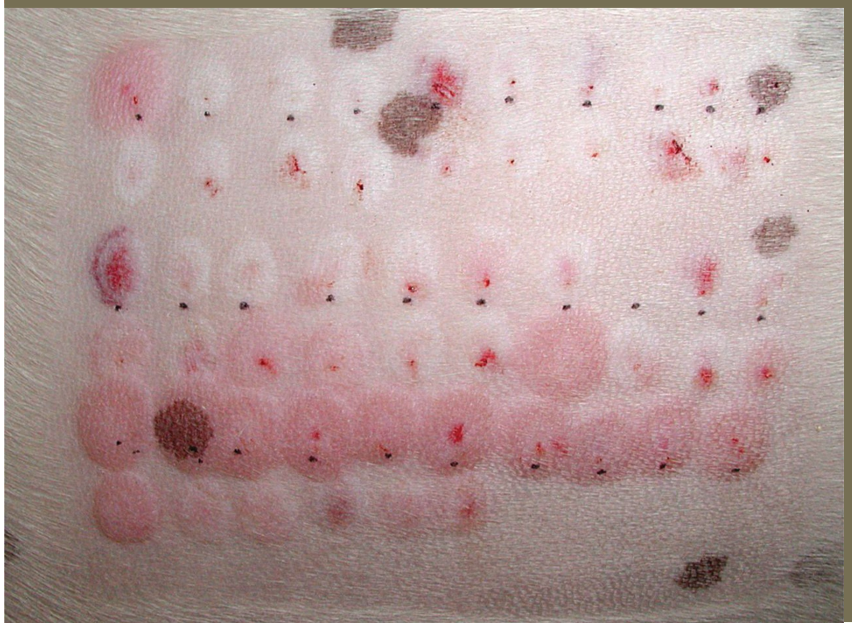
- Pruritus without infections
- Pododermatitis – Malassezia, staph, no infection
- Pyoderma – superficial or deep, localised or generalised
- Malassezia generalised dermatitis or regional
- Mucocutaneous pyoderma: nasal planum, oral, perivulvar
- Otitis externa
- Allergic conjunctivitis
- Perianal/anal pruritus
- Oral eosinophilic granulomas
- Contact pattern

Sequelae with chronicity

- Ear canal stenosis – otitis media – encephalitis and vestibular damage
- Lichenification
- Alopecia
- Acral lick granulomas
- Anal sac problems
- Immune mischief
- Keratoconjunctivitis sicca

Complicating and contributing factors

- Groomers
- Hair in ears
- Bath time
- Swimming
- Shampoo reactions
- Ear canal stenosis (congenital, breed factors)
- Contact reactions to grass leaf blade



Diagnosis

- Rule out all non-allergic causes of pruritus
  - Bacterial and Malassezia Infections
  - Parasites
- Rule out food allergy
  - IgE testing in animals is not accurate
  - Novel or anallergenic diet 8 weeks
- Default diagnosis is atopy
- ASIT - IDST and IgE in vitro test

Management Decisions

Allergen Specific Immunotherapy +/- medications

Consider

- Dog temperament – injections? Sublingual?
- Age of dog and comorbidities
- Owner tolerance and financial support (insurance?)
- Breed factors: role of contact, frequency of relapsing infections

ASIT success rate approx. 65-70%, but is patient selection dependent

Referral - ASIT has very little success in GP due to complexities of patient selection and management of infections and medication selection

MRSP, MRSE, MRS……

- Rifampicin, Fucidic acid, chloramphenicol
- Topicals
- Ab stewardship: owner compliance, GP management before referral!!!!

Tools in the kit

- Oclacitinib (Apoquel)
  - Inhibits JAK1 = reduces IL-31 (major itch), 4, 6, 13
- Ilunocitinib (Zenrelia) = inhibits JAK1, 2, tyrosine kinase
- Lokivetmab (Cytopoint)
  - Monoclonal AB to IL-31
- Ciclosporin (only Neoral useful)
- Prednisolone or dexamethasone
- Topical steroids
- Topical antimicrobials
- Topical moisturising
- Immunosuppressives rarely needed
  - Pred + azathioprine or chlorambucil or leflunomide…..

Pros and Cons of commonly used drugs

Oclacitinib (tab)

Pros

- Rapid action
- High efficacy

Cons

- Frequent dosing
- Hides pyoderma making management difficult
- Could interfere with ASIT tolerance development
- Cost
- Ilunocitinib – more side effects

Lokivetmab (inj)

Pros

- Injection q 4-8 weeks
- High efficacy

Cons

- Not anti-inflam so does not hide pyoderma
- Development of Ab (rare)
- Cost

Steroids…….

Ciclosporin (liquid, capsule)

Pros

- Prevents infections well
- Dose/frequency reductions

Cons

- GIT upset
- Hyperabsorbers – WHWT, diabetes
- Gingival hyperplasia
- Cost

Melbourne Veterinary Specialist Centre

- **Glen Waverley: 03 9887 8844**
- **Essendon Fields: 03 93743644**
- **office@melbvet.com.au**
- **Web: melbvet.com.au**
  - Currently embedded in Animal Referral and Emergency Network