



DR.

Joyza

DOCTOR OF VETERINARY MEDICINE

A BAD Hair Day for Poodles, Doodles, & Ocherese- Oh My! A Review of Sebaceous Adenitis

Animal Dermatology Clinic
Louisville, KY
Evansville, Indiana

Who remembers?



DR. *Joyza*
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DR. *Joya*
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Toby

- 5-year-old miniature poodle
- Hx of poor hair coat & coat color change
- Mild pruritus
- Treated with cefpodoxime w/o improvement, bathing with oatmeal shampoo

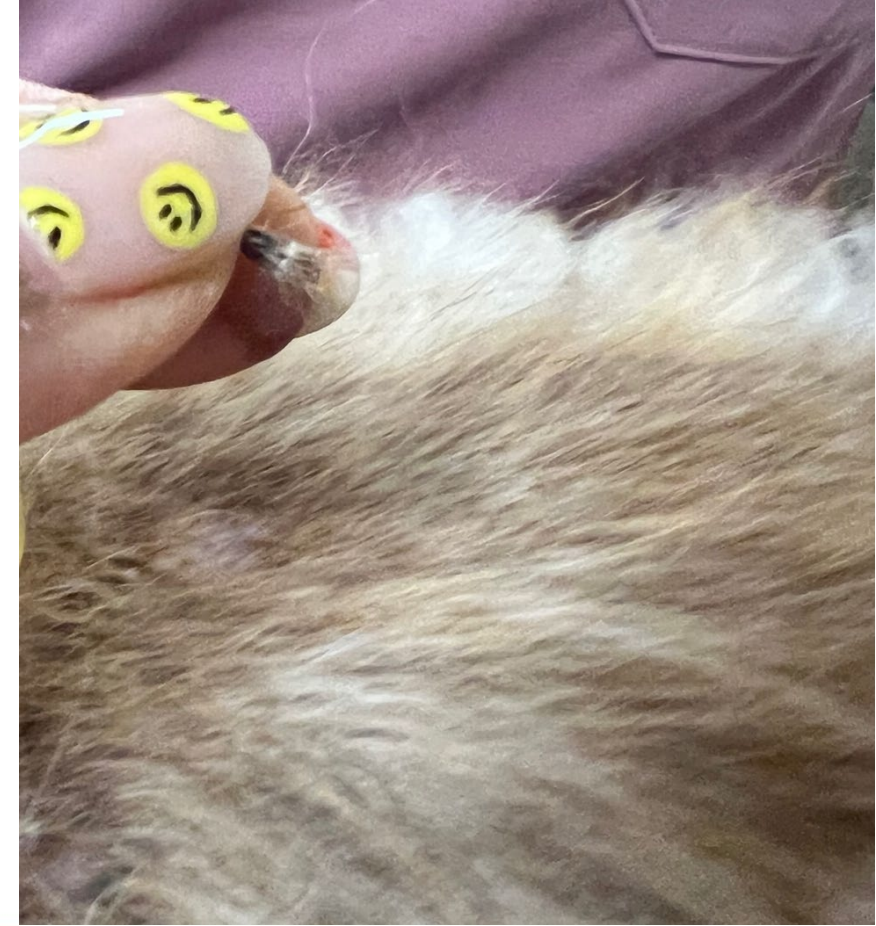
What do you do?

- A. Cytology
- B. Culture
- C. Treat with lokivetmab
- D. Phone a friend

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On physical exam



Physical exam findings

- CS's: thin truncal haircoat extending to limbs, adherent scaling on topline, hairs easily epilate with casts of white scale, hairs on topline darker than remainder of haircoat
- Cytology- scant nuclear streaming, no cocci

Follicular casting

- Keratinaceous debris that surrounds and remains attached to shaft of hair
- Differentials: demodicosis, dermatophytosis, vitamin A-responsive dermatoses, sebaceous adenitis, primary seborrhea



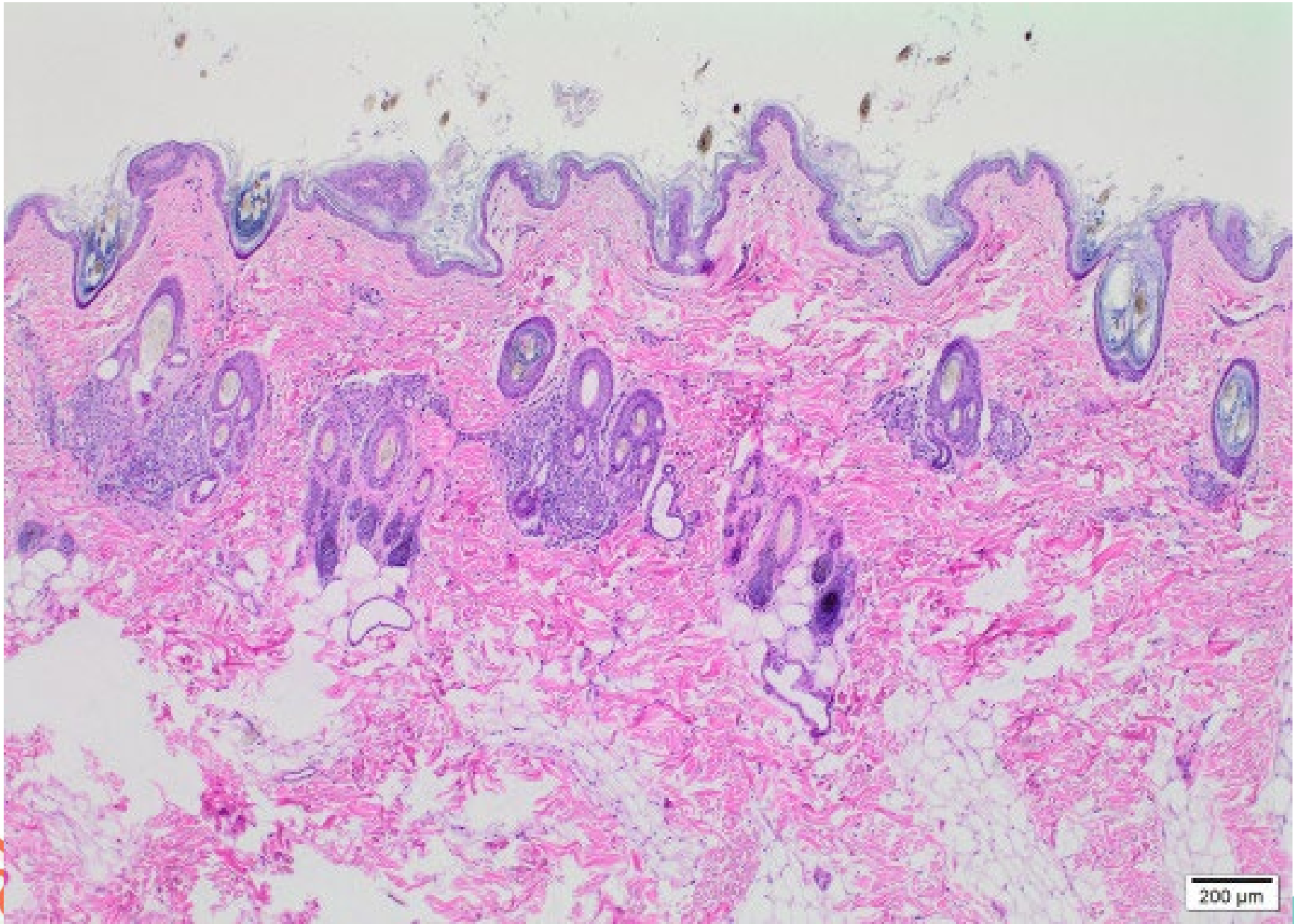
Next steps?

- Deep skin scrape
- Fungal culture
- Trichogram
- Biopsy

- Toby had been receiving fluralaner
- Owners had no lesions, no other pets at home

- Fungal culture submitted
- Biopsy performed





Sebaceous Adenitis

- First described in 1986 in dogs
- Rare in cats, rabbits, horses, humans
- Inflammatory dz that destroys sebaceous glands
- Scaling, follicular casts
- Poor haircoat that progresses to alopecia
- Autosomal recessive in Poodles & Akitas
- Others breeds: GSD, Samoyed, Vizsla, Havanese, Lhasas, Chow, Springer & DOODLES!



Clinical Signs

- Lesions start on head, neck & lateral pinnal margins
- Spread to dorsum and then involve tail, trunk, legs
- Malodor may be noted
 - Changes in lipid layer
 - Secondary infection
- Variable pruritus
- Lethargy?
- Alopecia d/t perifollicular fibrosis causing decreased fxn follicle stem cells



Clinical signs

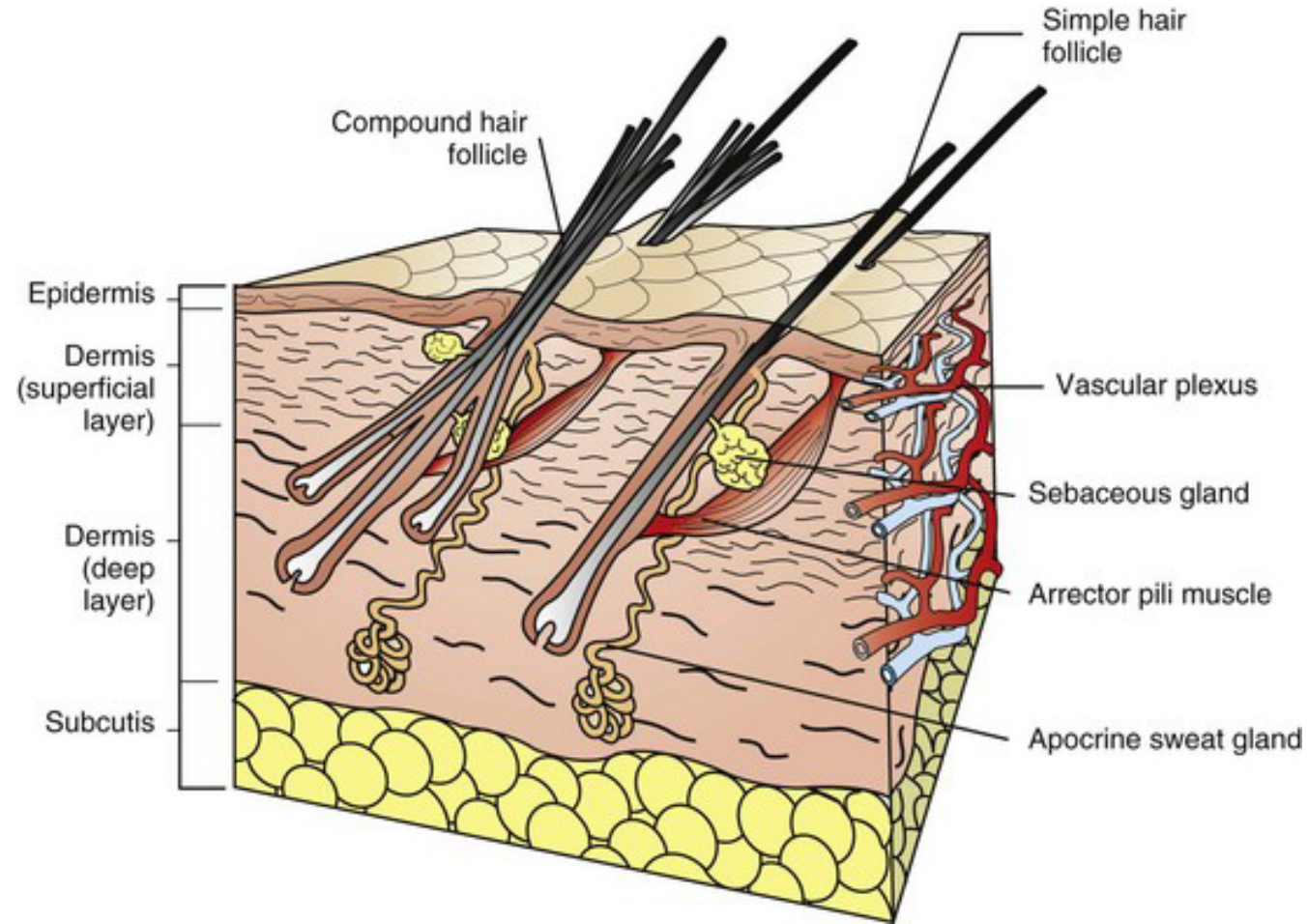
Long-coated Breeds

- Head, pinna, neck, tail → dorsum
- Darkening or lightening of coat color
- Loss of curl or wave to straight
- Dull & brittle hair
- Adherent scale, matted
- Follicular casting
- Progress to alopecia
- Otitis
- Secondary infection in 40%

Short-coated Breeds

- Truncal lesions
- Annular areas of scale & alopecia that coalesce with time → arciform
- Nonadherent fine, white scaling
- Nodular lesions
- Rare secondary infection

A bit about sebum



Why is sebum important?

- Mixes with sweat and epidermal lipids
- Lubricates the skin & hair
- Retains moisture
- Maintains hydration



Why is sebum important?

- Physical & chemical barrier against microbes
 - Contains IgA, inorganic salts, proteins → local immune defense
 - Causes production of FFA's in hair follicle → antimicrobial action

Pathogenesis

- Exact pathogenesis is speculated
- ↓ sebum → ↓ moisture & fibrosis around hair follicle → weak hairshafts
- Decreased antimicrobial properties → infection



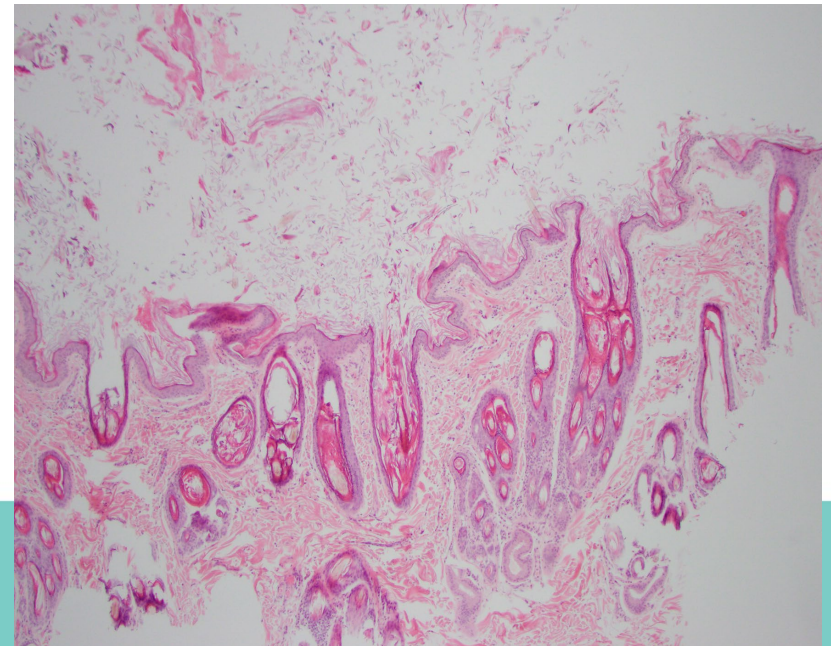
Theories

1. Inherited or developmental defect
2. Abnormal lipid metabolism or storage
3. Keratinization defect leading to gland obstruction
4. Immune-mediated destruction



Definitive Diagnosis

- Histopathology → acanthosis with hyperkeratosis, follicular plugging & mixed perifollicular inflammatory infiltrate in areas of sebaceous glands w/ mural folliculitis
- Chronic → hair follicles devoid of inflammatory cells, sebaceous glands



Bane

- 7 ½ year old GSD
- 2-year history of pruritus, skin lesions
- Bx sterile granulomatous dermatitis
- Treated for atopy with lokivetmab, oclacitinib
- Started ASIT 4 months prior to first exam

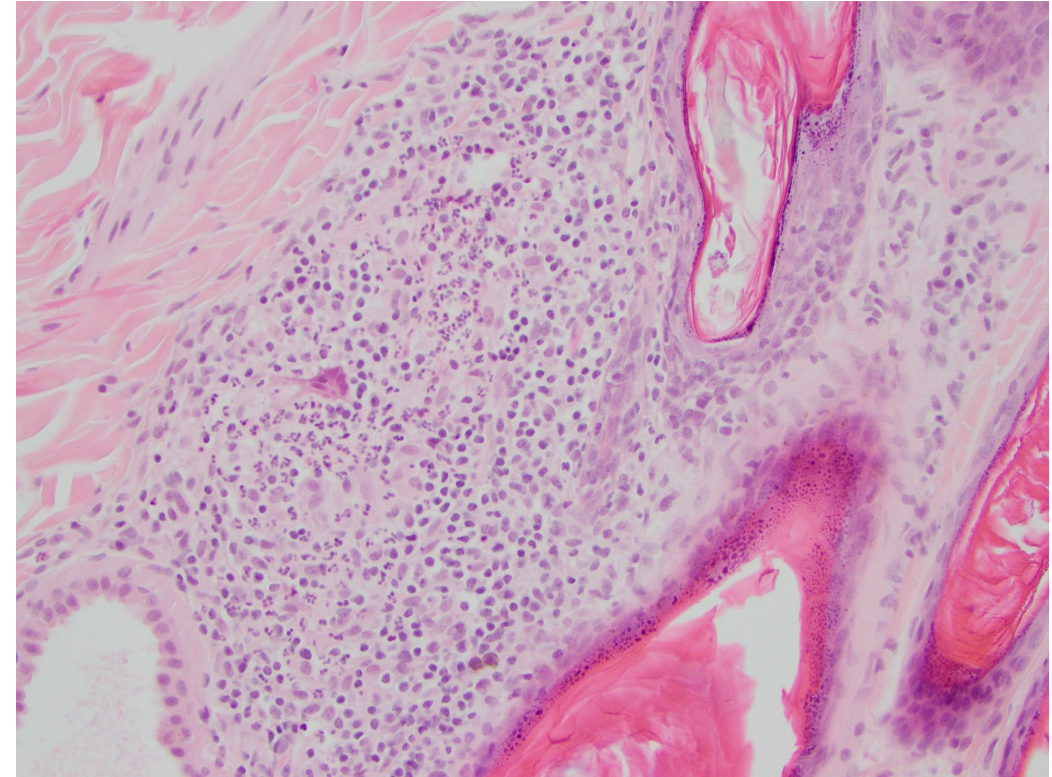
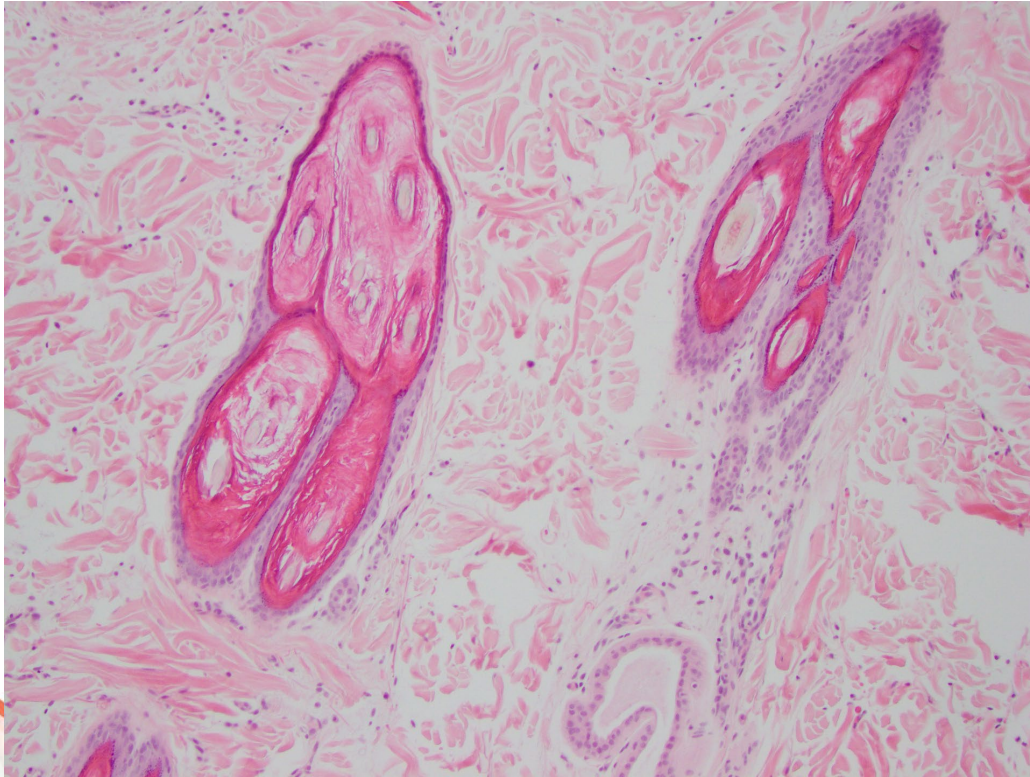






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Histopathology Results



Treatment Goals

1. Remove scale and follicular casts
 2. Restore barrier fxn
 3. Reduce inflammation/destruction of glands
 4. Improve quality of hair, promote regrowth
 5. Control secondary infections
- Utilize keratolytic/keratoplastic agents, emollients, and humectants +/- oral OFA's, CsA, retinoids, DCN

Treatment

- Life-long
- Topical alone or in combo with oral CsA therapy
- Often labor intensive

- Sulfur or salicylic acid containing shampoos with conditioner or spray, Alpha Keri bath oil or baby oil, or propylene glycol application

TOBY'S SKIN SCHEDULE

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Atopica Dermoscent	Atopica Propylene Glycol	Atopica BATH	Atopica Propylene Glycol	Atopica	Atopica BATH Propylene Glycol	Atopica

Treatment

- Oral omega fatty acids
 - Mild to moderately affected
- Vitamin A
 - 1000 IU/kg/day to 10-30,000 IU BID
 - Rare KCS cases reported → STT recommended
- Retinoids
 - Sebostatic
 - Teratogenic, hepatotoxic, GI upset
- Doxycycline/niacinamide
 - GI upset, rare hepatotoxicity with niacinamide



Back to Bane

- Oral regimen:
 - Started CsA & ketoconazole
- Topical regimen:
 - DermaBenSs® shampoo once to twice weekly
 - Propylene glycol spray three times weekly
 - Dermoscent® Essential 6® spot-on weekly

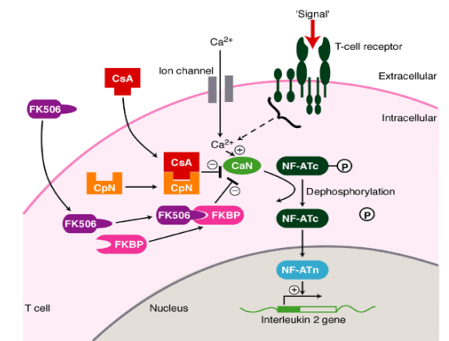


One month into treatment



Cyclosporine

- Calcineurin inhibitor
 - May lead to sebaceous gland regeneration
 - Inhibits T helper and cytotoxic T cells, IL-2 & other inflammatory cytokines
- Humans: Anti-rejection drug, RA, Psoriasis, AD, alopecia, ulcerative colitis, IBS, Crohn's dz
 - Investigated in tx of asthma, brain injury
- Dogs & Cats: AD, lupus, vasculitis, IMHA, organ transplantation in cats
 - 78% effective in cats, liquid formulation



Mechanism of action of cyclosporine or tacrolimus (FK506)

Pharmacology

- Several formulations available
 - Sandimmune® ≠ Atopica®/Neoral®/Gengraf®
 - Doses are not bioequivalent btwn products!
 - Poorly bioavailable after oral dosing, decreased by presence of food
 - Emulsion achieves higher blood levels in dogs and cats
- Metabolized by liver via P450
- Excreted in the Bile

Side Effects

- GI upset most common
- Use caution with renal, liver dz
 - Hepatotoxicity, nephrotoxicity at high blood levels
- Gingival hyperplasia, hypertrichosis, excessive shedding, papillomatosis
- Increased susceptibility to bacterial, fungal dz w/ prolonged use esp. in combination with steroids
- Can interfere with glucose metabolism
 - Use with caution in diabetic animals

Gingival hyperplasia



Side Effects continued

- In Cats
 - Fatal Toxoplasmosis in cats who become seropositive while on CsA; those seropositive prior do not repeat oocyst shedding at anti-inflammatory doses
 - Safest in indoor only cats → Avoid hunting, raw foods



Gingival hyperplasia



Two months after tapering dose Atopica®



And rarely....

- One-month history of new plaque-like lesions on the skin





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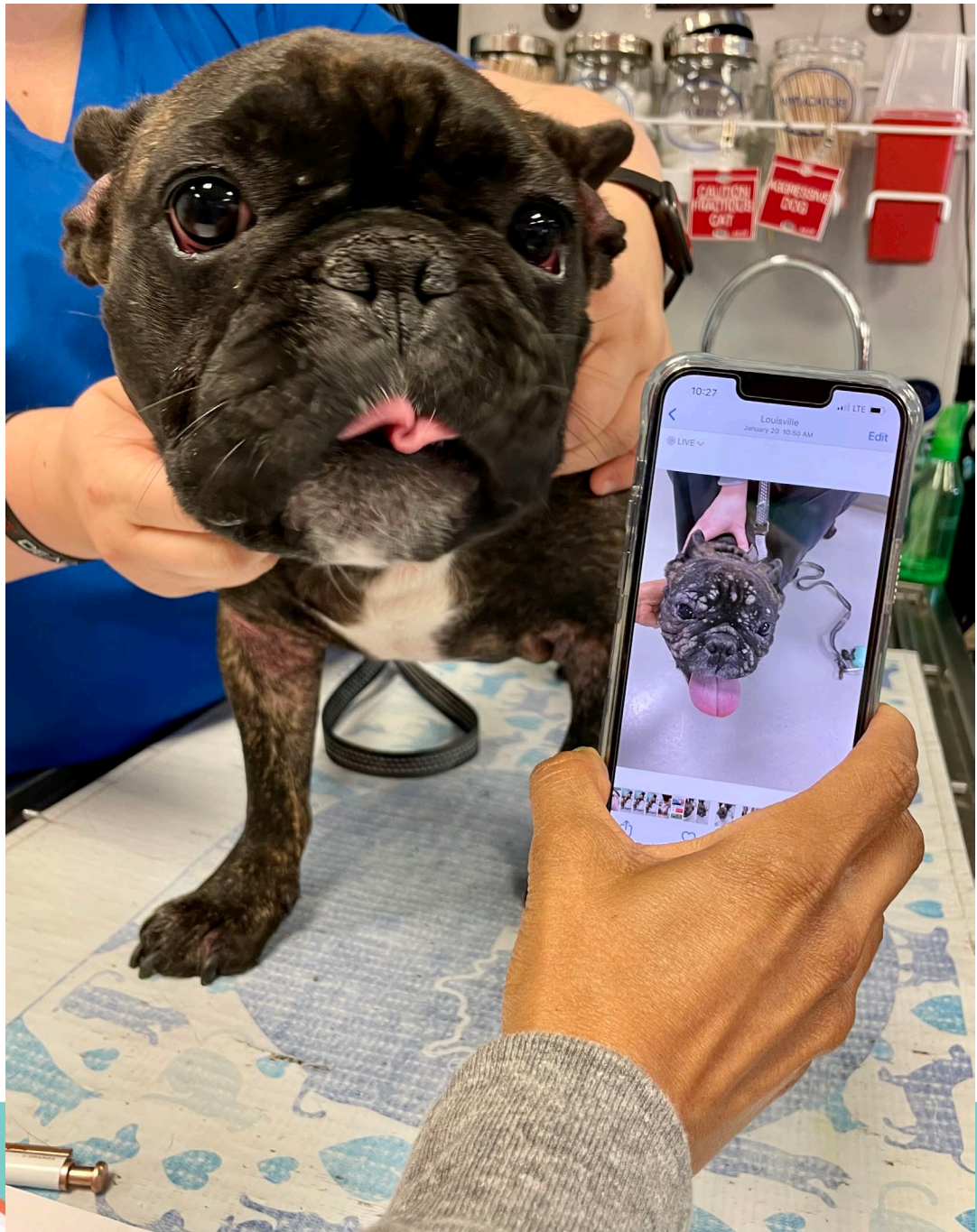
Tucker

- 1 ½ year Frenchie
- Hx refractory AD well-controlled w/ Atopica®
- 2 months prior, switched to generic modified CsA to ↓ cost
- Dx: psoriasiform lichenoid dermatitis secondary to CsA drug ran
- Switched back to Atopica® & treated secondary infection

2 months later!!



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Dermoscent® Essential 6® Spot-On

- Labelled for use in dogs, cats, small mammals, horses
- Composed of 10 essential oils (clove, camphor, gaultheria, rosemary, curcuma, oregano, lavender, peppermint, tea tree and cedar)
- Omega 3, 6 fatty acids from hemp grain and neem oil, & vitamin E
- Pleasantly scented, easy to apply
- Contains smoothing and purifying agents
- Diffuses throughout skin concentrating in sebaceous glands, hair follicles, and epidermis

Dermoscent® Essential 6® Spot-On

- Restores lipids to the skin → increasing ceramide productn → improves barrier fan, TEWL
- OFA's → modulate prostaglandin, leukotriene production → Inhibits cytokine release
- Antimicrobial d/t essential oils
- Reduces pruritus and lesion scores in mild to moderately affected AD



How to use?

- Apply 1 pipette to skin at 1-2 locations btwn shoulders weekly for 2 months, then taper to EOW
- Avoid bathing 2 days before and after applying
- Brush thickly haired pets one day after to remove any residue on coat, distribute thoroughly
- No interference with other topical-spots s/a flea control



Indications for use

- Seborrheic conditions
 - s/a vitamin A-responsive dermatosis, ear margin seborrhea, feline acne, and idiopathic scaling
- Sebaceous adenitis
- Ichthyosis



Seborrhea sicca



Follicular dysplasia with inclusion cysts



Ichthyosis



Chinese Crested!



Don't let your Doodle have a Bad hair day! SA success story



Thank you! Any questions?



Watch "Pop Goes the Vet with Dr. Joya"

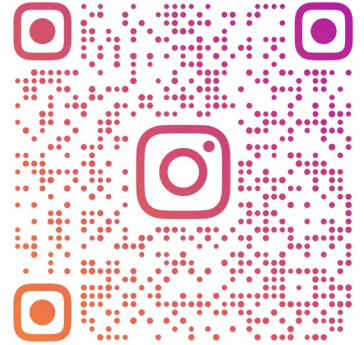
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NATIONAL
GEOGRAPHIC

WILD

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- Dermatology and One Health
- Immunodermatology
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- Otology
- Skin Biology in Health and Disease



We invite you to join us!

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