
- **Purpose**: *In vitro* study to determine the minimum bactericidal concentrations (MBCs) of silver sulfadiazine (SS), with and without the addition of trisEDTA, against multi-drug resistant *P. aeruginosa*.

- **Methods**: Twelve (12) clinical isolates of *P. aeruginosa* resistant to at least three classes of antibiotics from dogs with otitis were incubated at various (4-500 µg/mL) concentrations of SS for 90 minutes alone or with tris EDTA followed by plating on sheep blood agar to determine number of colony forming units (CFU’s). MCB’s were the lowest concentration of SS + trisEDTA that completely prevented bacterial growth.

- **Results**: trisEDTA had no antimicrobial activity when used alone. trisEDTA significantly reduced the median MCB’s of SS against *P. aeruginosa*: SS = 23.4 µg/mL, SS + trisEDTA = 4 µg/mL. In 11/12 of the isolates the combination was bactericidal at all concentrations.

- **Conclusions and Clinical Relevance**: The results suggest that SS + trisEDTA may be an effective alternative for multi-drug resistant otitis caused by *P. aeruginosa*. trisEDTA is found in several commercial formulations by itself and with other ingredients such as surfactants, ketoconazole, chlorhexidine and benzyl alcohol. Silver sulfadiazine is marketed with enrofloxacin (Baytril Otic, Bayer), and as a 1% cream (Silvadene, Thermazene, generics) and powder. The cream and powder forms are usually diluted down with saline to form 0.1-0.5% suspensions. It is unknown if trisEDTA chelates the silver molecule so it is not recommended to dilute the silver sulfadiazine directly in trisEDTA for prolonged storage. Until assays have been conducted to determine stability of the formulation, it is better to apply the trisEDTA separately from the SS or SS and enrofloxacin combination.

- **Purpose:** To assess the efficacy of topical moxidectin and imidacloprid (Advocate and Advantage Multi, Bayer) in dogs with hyperadrenocorticism.

- **Methods:** Eleven (11) dogs with hyperadrenocorticism and generalized demodicosis refractory to ivermectin (0.5 mg/kg, q24h, > 4 weeks) and milbemycin (0.5 mg/kg, q24h, > 4 weeks). Demodicosis: > 3 live adult mites from at least 3/4 deep skin scrapings. Hyperadrenocorticism: clinical signs, blood parameters, ACTH stimulation, ultrasound and on treatment with trilostane. Moxidectin 2.5% and imidacloprid 10% was applied topically on a weekly basis for 12 weeks. Reevaluations were conducted every 2 weeks for clinical evaluation, deep skin scrapings and blood work.

- **Results:** Mean adult mite counts: 0 weeks – 20.1; 4 weeks – 0.5 (6/11 neg); 8 weeks – 0.2 (9/11 neg). Ten out of the 11 dogs (90.1%) achieved negative consecutive scrapings over an 8 week period of time. No side effects or blood test abnormalities were noted.

- **Conclusions and Clinical Relevance:** Options for treatment of generalized demodicosis are fairly limited, especially when high-dose systemic avermectin compounds have not been effective or are contraindicated based on breed. The combination of topical moxidectin and imidacloprid has been used for demodicosis for several years but with less frequency of application and variable efficacy. It is now approved in some countries for weekly application for generalized demodicosis and is an off label option in the United States. Long-term follow-ups were not reported in this study but the clinical response was impressive, since dogs with hyperadrenocorticism are amongst the most difficult to treat effectively because of the underlying disease.


- **Purpose:** To assess owner ability to determine the degree of hearing impairment in their pet dogs with otitis.

- **Methods:** Owners of 45 dogs with otitis completed a questionnaire designed to investigate their opinion of their pet’s hearing and the ability of the dog to respond to common household noises. BAER measurements were taken from the dogs and assessed for minimal hearing threshold (MHT) in decibels (dB) and categorized into five grades of impairment severity:

  - 0 - No impairment, MHT ≤ 25 dB
  - 1 - Slight impairment, MHT 26-40 dB
  - 2 - Moderate impairment, MHT 41-60 dB
  - 3 - Severe impairment, MHT 61-80 dB
Results: Thirteen of 13 owners correctly determined absence of hearing impairment in grade 0 dogs. Owners were unable to detect unilateral hearing deficits whether slight (11/11), moderate (2/2) or severe (1/1). Only 3/9 owners noticed hearing reduction with bilateral hearing loss where one ear was graded at slight impairment. Owners (10/10) were able to detect bilateral hearing deficits of ≥ Grade 2.

Conclusions and Clinical Relevance: Owners are frequently unaware of mild or unilateral hearing impairment in dogs within the home environment. Owners are not able to accurately predict hearing deficits in their dogs until at least moderate bilateral deficits are present. Therefore, otitic disease may be severe and advanced before perceived by the owner through hearing loss in the dog. Furthermore, the owner’s perception of hearing is not a good indicator of ototoxic reactions to topical medications used in the ear canal until the deficits are bilateral and advanced.


Purpose: a) Determine the effective doses of methylprednisolone (M) and triamcinolone (T) required to induce remission from pruritus associated with feline allergic dermatitis. b) Compare the efficacy of several alternate day (EOD) maintenance doses. c) Determine whether laboratory abnormalities occurred at the effective doses.

Methods: Thirty two client-owned cats were randomly assigned to the M or T groups. Owners reported on pruritus scores (least=0 to most=10) and behavior changes weekly. Remission = < 2. Serum chemistry, CBC, fructosamine and urinalysis performed at day 0, 7-14 and at study completion.

Results: Mean once daily doses required for induction: M = 1.41 mg/kg, T = 0.18 mg/kg. Mean EOD maintenance doses: M = 0.54 mg/kg, T = 0.05 mg/kg. There were significant decreases in eosinophils and increases in fructosamine for both groups from baseline to study completion. For no individual cat did the fructosamine level exceed the upper reference limit.

Conclusions and Clinical Relevance: These results suggest that triamcinolone is 10 times more potent than methylprednisolone for induction and maintenance of feline pruritus. Furthermore, these doses are efficacious and safe for controlling pruritus in allergic cats.


Purpose: To evaluate the clinical efficacy of sublingual immunotherapy (SLIT) in a large population of dogs.
• **Methods:** Open trial starting with 217 dogs with atopic dermatitis from nine dermatology specialty clinics. Each dog received twice daily administration of an escalating-dose, non-aqueous sublingual immunotherapy formulation devised based on individual-tested sensitivities. Response after at least 6 months of SI was graded by the clinician according to four subjective response categories.

• **Results:** There were 124 evaluable cases: 68 (55%) good to excellent response. Seventy-seven (77) dogs of the 124 evaluable cases having received no previous immunotherapy had a response rate of 59%. Of the 47 dogs that failed previous injection immunotherapy, 23 (49%) dogs had a good to excellent response to SI.

• **Conclusions and Clinical Relevance:** Based on these open trial results, sublingual immunotherapy appears to be an effective treatment for canine atopic dermatitis, including in dogs that have failed injection immunotherapy.


At the 2013 Forum, Dr. DeBoer presented a complete and current update on sublingual immunotherapy (SLIT) in veterinary dermatology. The key points of this excellent review follow:

• Allergen immunotherapy is the only proven treatment to reverse the immunopathogenesis of atopic dermatitis, is practically free of adverse serious side effects in dogs and cats and should be initiated as early as possible in the course of the disease.

• SLIT is the administration of allergen extract into the oral cavity, under the tongue, instead of by subcutaneous injection. As such, the vehicles for the allergenic extracts are different.

• Evidence in human medicine has demonstrated efficacy for SLIT, especially for atopic rhinitis and asthma, and response rates similar to subcutaneous allergen immunotherapy. A multicenter, uncontrolled open trial of 217 dogs (124 evaluable) with atopic dermatitis indicated an overall good to excellent response rate of 55% with a 49% response rate in dogs that failed previous injection immunotherapy.

• Similar to injectable immunotherapy, 2-3 bottles with increasing concentrations of allergens are initially administered. Concurrent medications to control symptoms while awaiting response from SLIT can be administered. SLIT is usually continued 1-2 times per day indefinitely without tapering.

• Dogs that have had reactions, including anaphylaxis, to injectable IT can usually tolerate SLIT.
- SLIT formulations can be stored at room temperature for 6 months. Mold extracts can be mixed with pollens without losing efficacy.

- After a clinical diagnosis of AD has been established, individual sensitivities are established by serologic and/or intradermal testing. Selection of allergens is then conducted by a veterinary dermatologist or someone else with expertise in the field based on history of exposure, allergen cross-reactivity and serologic or intradermal scores. Dr. DeBoer recommends limiting the allergens in a SLIT vial to 10-12 maximum.

- Companies offering SLIT will prepare the treatment sets with uniform and standard amounts of relevant allergens. Again, relevant molds and fungi can be included with pollens.

- Depending on the company, dosing is recommended once or twice a day indefinitely. The allergen solution should remain in contact with the oral mucosa for as long as possible and should not be given with food.

- Dr. DeBoer recommends when switching from shots to drops that:
  - If there was no response to shots or if there were reactions to shots then start SLIT very cautiously at the lowest concentration vial and work up from there.
  - If the patient is stable and doing well on shots then start directly with the maintenance vial.

- Anecdotal observations suggest that initial improvement is seen within 3-6 months, similar to injectable immunotherapy.

- A small number of dogs may have itchiness of the oral cavity or vomiting during the first few doses. Worsening of clinical disease has also been noted. The recommendation is these cases is generally to continue twice daily administration but to decrease the concentration.

- Companies currently offering SLIT include Heska (Allercept Drops), Bio-Medical Services (ACTT Allergy Drops), Nelco (Allerpaws) and Respit (Respit).


- **Purpose:** To evaluate the agreement of diagnostic results and treatment recommendations of four serum IgE assays available commercially from four laboratories in the USA.

- **Methods:** Replicate serum samples from 10 atopic dogs were submitted to each of four laboratories in the USA (ACTT, Bio-medical Services, Austin, TX; VARL Liquid Gold, Veterinary Allergy Reference Laboratory, Pasadena, CA; Allercept, Heska, Loveland, CO; and Greer Aller-g-complete, IDEXX Laboratories, Westbrook, ME). The interlaboratory agreement of standard regional panels and ensuing treatment
recommendations were analyzed with the kappa (j) statistic to account for agreement that might occur merely by chance. Six comparisons of pairs of laboratories and overall agreement among laboratories were analyzed for ungrouped allergens (as tested) and also with allergens grouped according to reported cross-reactivity and taxonomy.

- **Results:** The overall diagnostic agreement between laboratories was only slightly better than expected by random guessing (j = 0.14). No two laboratories displayed even moderate chance-corrected agreement (j > 0.40) with each other. The overall agreement of the treatment recommendations was also poor (j = 0.11). Altogether, 85% of ungrouped allergen treatment recommendations were unique to one laboratory or another.

- **Conclusions and Clinical Relevance:** The study results indicate that the choice of a specific commercial allergen-specific IgE assay is likely to have a major influence on the results obtained and ensuing treatment recommendations.


- **Purpose:** To investigate the efficacy of cetirizine hydrochloride (CTZ) (Zyrtec, McNeil) on the pruritus and dermatitis of cats diagnosed with mild to moderate atopic dermatitis.

- **Methods:** Enrolled 21 cats with modified CADESI-03 scores of ≥ 25 - < 125 and pruritus scores of ≥ 3 - <7. Crossover design: 1 mg/kg CTZ or placebo q24h for 28 days with a 14 day washout period. Owners: pruritus severity scale at 0, 7, 14, 21, 28, 35, 42, 49, 56, 63 and 70 days. Clinician: CADESI-03 scores at 0, 28, 42 and 70 days.

- **Results:** Nineteen (19) cats completed the study. There was no difference between treatment with CTZ and placebo for either CADESI-03 or pruritus.

- **Conclusions and Clinical Relevance:** These results indicate that CTZ is not effective for reducing dermatitis or pruritus associated with mild to moderate atopic dermatitis in cats.


- **Purpose:** To compare the residual antibacterial activity of hair shafts against *Staphylococcus pseudintermedius* after shampooing with seven different shampoos.

- **Methods:** Forty-two (42) dogs were shampooed on days 1, 4, 7 and 10. Hair samples were taken on days 0, 10, 12, 14 and 17. Hairs were weighed and placed onto agar streaked with *S. pseudintermedius*. After 24 hours of incubation, zones of inhibition were measured. Seven different shampoos and one shampoo vehicle control were evaluated.
• **Results**: When compared to a placebo shampoo vehicle, 3% chlorhexidine shampoo (Pyohex®, Dermcare Vet) and 2% chlorhexidine - 2% miconazole shampoo (Malaseb®, Dermcare Vet) demonstrated significant residual activity out to 7 days after the last shampoo. A 0.8% chlorhexidine shampoo (Dermazyme®, Losham with ActiBac, Ceva) and 4% chlorhexidine shampoo (HexoCare®, Alfavet) had variable and inconsistent residual activity. A 10% ethyl lactate shampoo (Etiderm®, Virbac) showed bacterial inhibition in only two hair samples from two dogs and 2.5% benzoyl peroxide shampoo (Peroxyderm®, Vétoquinol) demonstrated no inhibition at any time point.

• **Conclusions and Clinical Relevance**: The shampoos containing 3% chlorhexidine and 2% chlorhexidine-2% miconazole had the best residual activity on hair shafts. The authors suggested that the disappointing results with the 4% chlorhexidine shampoo were probably related to formulation issues. These *in vitro* results are encouraging but may not directly relate to *in vivo* efficacy. Therefore, it is still recommended to use antibacterial shampoos at least twice weekly. Results also suggest that formulation matters, especially when working with chlorhexidine.


• **Purpose**: To compare treatment of Malassezia dermatitis (MD) in dogs

• **Methods**: Thirty dogs with clinical signs of MD and high numbers of yeast on cytology were randomly assigned to one of three treatment groups with 3 and 6 week follow-ups for clinical and cytological evaluations.

  o Ketoconazole at 10 mg/kg, PO, q24h
  o Two percent (2%) chlorhexidine and 2% miconazole shampoo twice a week
  o Combination of A) and B)

• **Results**: Percent (%) improvement in each group:

<table>
<thead>
<tr>
<th>Time - Parameter</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 weeks - clinical</td>
<td>48.2</td>
<td>57.3</td>
<td>69.6</td>
</tr>
<tr>
<td>3 weeks - cytology</td>
<td>46.9</td>
<td>61.8</td>
<td>68.7</td>
</tr>
<tr>
<td>6 weeks - clinical</td>
<td>82.7</td>
<td>84.5</td>
<td>89.6</td>
</tr>
<tr>
<td>6 weeks - cytology</td>
<td>75.0</td>
<td>91.2</td>
<td>93.7</td>
</tr>
</tbody>
</table>

• **Conclusions and Clinical Relevance**: All three treatment options led to clinical improvement. The combination of systemic and topical treatment was significantly more effective than systemic therapy used alone.

- **Purpose**: To screen eight commonly used disinfectants against *Microsporum canis* spores on textile swatches

- **Methods**: Gauze swatches were contaminated with *M. canis* spores from infected hairs. Each disinfectant was sprayed 1 or 5 times onto the 16 cm² swatches. After a 10 minute contact time the swatches were cultured on dermatophyte test medium. Testing was done in replicates of eight samples.

- **Results**: *M. canis* colony forming units after culture of gauze swatches (NG = no growth)

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>One Spray</th>
<th>Five Sprays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated Control</td>
<td>&gt; 300</td>
<td>&gt; 300</td>
</tr>
<tr>
<td>Undiluted Bleach</td>
<td>NG</td>
<td>NG</td>
</tr>
<tr>
<td>Clorox Anywhere (sodium hypochlorite 0.0095%)</td>
<td>&gt; 300</td>
<td>NG</td>
</tr>
<tr>
<td>Simple Green (ethoxylated alcohol 3%)</td>
<td>&gt; 300</td>
<td>NG</td>
</tr>
<tr>
<td>Fantastic (quaternary ammonium 0.22%)</td>
<td>&gt; 300</td>
<td>NG</td>
</tr>
<tr>
<td>Trifectant (pot. peroxymonosulfate 21.41% and NaCl 1.5%)</td>
<td>&gt; 300</td>
<td>NG</td>
</tr>
<tr>
<td>409 (quaternary ammonium 0.3%)</td>
<td>NG</td>
<td>NG</td>
</tr>
<tr>
<td>Clorox Clean-Up (sodium hypochlorite 1.84%)</td>
<td>NG</td>
<td>NG</td>
</tr>
<tr>
<td>Lysol (lactic acid 3.2%)</td>
<td>NG</td>
<td>NG</td>
</tr>
<tr>
<td>Accel TB (hydrogen peroxide 0.5%)</td>
<td>NG</td>
<td>NG</td>
</tr>
</tbody>
</table>

- **Conclusions and Clinical Relevance**: These results suggest some commercial ready-to-use spray products which may be effective to disinfect premises contaminated with *M. canis* spores.


- **Purpose**: To determine skin and blood ciclosporin concentrations when administered alone and at subtherapeutic doses, and when administered at subtherapeutic doses concurrently with ketoconazole.

- **Methods**: Randomized cross-over study on six health hounds which received each of the following treatments once daily for 7 days followed by a 14-day washout. After the first, fourth and seventh dose for each treatment, skin biopsies and blood samples were taken at peak and trough times to determine ciclosporin concentrations.
  
  - Ciclosporin 5.0 mg/kg/day (T1)
  - Ciclosporin 2.5 mg/kg/day (T2)
  - Ciclosporin 2.5 mg/kg/day + ketoconazole 5.0 mg/kg/day (T3)
  - Ciclosporin 2.5 mg/kg/day + ketoconazole 2.5 mg/kg/day (T4)

- **Results**:
<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Ciclosporin Blood (mean; ng/mL)</th>
<th>Ciclosporin Skin (mean; ng/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>307.50</td>
<td>0.600</td>
</tr>
<tr>
<td>T2</td>
<td>169.41</td>
<td>0.262**</td>
</tr>
<tr>
<td>T3</td>
<td>644.83*</td>
<td>1.236*</td>
</tr>
<tr>
<td>T4</td>
<td>417.74</td>
<td>0.697</td>
</tr>
</tbody>
</table>

*Significantly greater than T1  
**Significantly less than T1

- **Conclusions and Clinical Relevance:** There was no difference in mean blood or skin ciclosporin concentrations when ciclosporin was dosed at 5.0 mg/kg/day compared to ciclosporin at 2.5 mg/kg/day with ketoconazole at 2.5 mg/kg/day. Ciclosporin accumulates in the skin over the course of seven doses. Clinically, these results suggest that similar clinical outcomes would occur with either dosing regimen.


- **Purpose:** To determine the efficacy of azithromycin (AZI) in systemic and toothpaste forms for ciclosporin-associated gingival overgrowth (CsAGO) in dogs.

- **Methods:** Thirty-six client-owned dogs with CsAGO were randomly assigned to four groups. Treatments were continued for 4 weeks with measurements of gingival sulcus depth, tooth length and subjective global scores taken at weeks 0, 2, 4 and 8. After 8 weeks, placebo patients were encouraged to restart in an unblinded crossover of their respective group.
  - AZI capsule 10 mg/kg/day
  - AZI toothpaste 8.5% once a day
  - Placebo capsule
  - Placebo toothpaste

- **Results:**
  - Significant decrease in gingival sulcus depth for the AZI systemic treatment group at week 8 and the AZI toothpaste group at weeks 2, 4 and 8. The mean decrease (systemic and toothpaste combined) was significantly greater for the treated vs. the placebo groups at 2 and 4 weeks.
  - Tooth length and global scores were not significantly different for any groups for blinded data.
  - Tooth length was significantly increased in the toothpaste vs. the systemic treatment groups when unblinded crossover data was included.
  - Vomiting or diarrhea
AZI capsules: 6/9
AZI toothpaste: 3/9
Placebo capsule: 2/9
Placebo Toothpaste: 2/9

Conclusions and Clinical Relevance: AZI is a mildly effective treatment for CsAGO. The toothpaste is preferred due to gastrointestinal side effects more common with systemic treatment. Based on these preliminary results one might consider earlier treatment, twice-a-day brushing, longer duration of treatments and surgical reduction. A lower dose or discontinuation of ciclosporin may be indicated but in many cases the drug has afforded optimal control of the atopic dermatitis so owners may be reluctant to select these options. It should also be noted that a higher prevalence of CsAGO has been associated with concurrent administration of an azole antifungal agent such as ketoconazole.


Purpose: To determine the in vitro minimal bactericidal concentration (MBC) of standard bleach (sodium hypochlorite 6.15%) for MRSP strains isolated from canine skin.

Methods: Twelve MRSP isolates (Antech) from clinical cases grown in broth and subjected to 2-fold serial dilutions (1:1 to 1:1024) of 6.15% sodium hypochlorite and demineralized water. After 15 minutes of exposure to the bleach solutions, solution were cultured in triplicate on Mueller-Hinton agar, incubated overnight followed by colony counts.

Results: The MBC for all of the canine skin-isolated MRSP strains after 15 minutes of exposure was a 1:32 dilution.

Conclusions and Clinical Relevance: A 1:32 dilution (0.2% sodium hypochlorite solution) corresponds to 8 tablespoons (118 mL) of bleach to a gallon of water. CDC recommends 1:10-1:100, so 1:32 is reasonable for decontamination of home or veterinary hospital environments for MRSP.

The recommendation for topical treatment of dogs with MRSP as sprays or rinses has typically been 1 ounce per 10 gallons of water. This is a 1:1,280 dilution (0.005% sodium hypochlorite solution) corresponding to 0.6 teaspoons (3 mL) of bleach to a gallon of water. This concentration would not be effective against the isolates in this study and should be questioned as to potential efficacy. The recommendation in humans is to use 1/4 to full strength (0.1% to 0.5% sodium hypochlorite) Dakin’s Solution for treating wounds 1-2 times per day.
It should be noted that sodium hypochlorite bleach is commercially available in various concentrations so dilutions may vary to arrive at the desired concentration. The newer concentrated Chlorox Regular Bleach contains 8.25% sodium hypochlorite. Some human references recommend to not use commercial preparations for dilution with sodium hypochlorite above 5.25% or with additional ingredients. Remember that sodium hypochlorite is regulated by the EPA and it is a violation of Federal law to use these products in a manner inconsistent with its labeling.


- **Purpose**: To evaluate the biofilm-forming capacity of canine otic isolates of *P. aeruginosa* and to compare the minimum inhibitory concentration (MIC) of the planktonic versus biofilm-embedded bacteria.

- **Methods**: Eighty-three (83) isolates from dogs with otitis were tested. Broth microdilution was used to assess the MIC of neomycin, polymyxin B, enrofloxacin and gentamicin for the planktonic and biofilm-embedded bacteria.

- **Results**: Thirty-three (40%) of the isolates were biofilm producers (13% high biofilm, 18% moderate biofilm, 8% low biofilm). Biofilm MICs for all four antibiotics were significantly higher than for the planktonic form. MIC90s (µg/mL):
  - Enrofloxacin: Planktonic 8, Biofilm 16
  - Gentamicin: Planktonic 8, Biofilm 128
  - Polymyxin B: Planktonic 64, Biofilm 256
  - Neomycin: Planktonic 128, Biofilm 256

- **Conclusions and Clinical Relevance**: Biofilm production by otitis isolates of *P. aeruginosa* is common and may play a role in the pathogenesis of the disease. The increased MICs for biofilm-embedded bacteria may lead to lack of response to treatments. If enrofloxacin, gentamicin, neomycin or polymyxin B is used for topical treatment of *Pseudomonas* otitis, concentrations of the medications should be increased, especially in chronic cases.


- **Purpose**: To describe the clinical and immunological features of a cutaneous adverse drug reaction to a topical ectoparasiticide containing fipronil, amitraz, and S-methoprene (*Certifect*, Merial).
• **Methods:** Twenty (20) dogs with a probable or definitive diagnosis of pemphigus foliaceus (PF)-like cutaneous adverse drug reaction were identified between May 2012 and February 2013. These dogs had an acantholytic pustular dermatitis similar to that of Promeris-triggered pemphigus foliaceus (PF).

• **Results:** Most dogs were middle-aged or older (median, 9 years) and of large size (median, 24 kg). In six dogs (30%), the PF-like lesions remained confined to the site of application, while 14 dogs (70%) exhibited lesions at distant sites. One or two applications of Certifect were sufficient to trigger PF-like lesions in seven (35%) and six (30%) dogs, respectively. Systemic signs were reported in eight dogs (40%), all with lesions extending to sites distant from application areas.

Tissue-bound antikeratinocyte IgG were detected in the lesional epidermis of 8/18 (44%) cases by direct immunofluorescence, while serum antikeratinocyte IgG were detected in 9/14 (64%) cases by indirect immunofluorescence. Autoantibodies were found to target canine desmocollin-1 in 11/14 dogs (79%), but not canine desmoglein-1, by indirect immunofluorescence on transfected cells. These immunological findings were similar in cases with localized and distant disease.

• **Conclusions and Clinical Relevance:** Certifect is capable of triggering the development of an acantholytic pustular dermatosis that is a close clinical, histological, and immunological match for Promeris-triggered PF and naturally occurring autoimmune PF in dogs.


• **Purpose:** To identify risk factors for methicillin-resistant *Staphylococcus pseudintermedius* (MRSP) infections in dogs and cats in Germany.

• **Methods:** Clinical data from cases of MRSP (n = 150) and methicillin-susceptible *S. pseudintermedius* (MSSP) controls (n = 133) 6 months prior to staphylococcal isolation were analyzed by multivariable logistic regression. The identity of all MRSP isolates was confirmed genotypically through demonstration of *S. intermedius*-group specific nuc and mecA.

• **Results:** Cats, animals that had been hospitalized, and animals that had visited veterinary clinics more than once, as well as those that had received topical ear medication or glucocorticoids, were associated with MRSP infection.

• **Conclusions and Clinical Relevance:** These results indicate a likely association of MRSP with veterinary clinic or hospital settings, and perhaps also an association with chronic skin inflammation. The unexpected lack of association between MRSP isolation and antimicrobial therapy requires further investigation; it may indicate that this bacterium adapted to canine skin with little need for selective pressure.