21st Century Topical Management of Superficial Pyoderma

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Antibiotic bacterial resistance is a growing problem and poses a therapeutic challenge in human and veterinary medicine. Antibiotics are used not only to treat bacterial infections in human patients and animals but also the food industry. Animals and plants are treated with antimicrobials to prevent and treat disease and improve productivity. Resistance is not a new phenomenon. It has always been a survival strategy for bacteria, but antibiotics create selective pressure that promotes and induces rapid bacterial resistance. Some bacteria have become resistant to many classes of antibiotics; such is the case with *Staphylococcus pseudintermedius*, which is the most common bacteria found in canine pyoderma. Antibiotics that were commonly used to treat dogs with skin infections are often no longer effective, and the treatment of these infections has also become more complicated and expensive, requiring bacterial cultures with antibiotic sensitivities.[1]

Unfortunately, the antibiotics that are used for treating multi-resistant bacteria are either toxic, expensive, promote more resistance, or are complicated to use, posing a big challenge for veterinarians. Furthermore, empirical drug selection for systemic therapy is always contraindicated when an MRS infection is suspected.[2]

Current recommendations and guidelines for treating superficial and surface pyoderma in dogs are to use topical therapy first. Patients may be treated locally using wipes, sprays, ointments, and mousses or bathed for generalized problems. Several studies have proven that the use of topical chlorhexidine or a combination of chlorhexidine and miconazole can be as or more effective than the use of antibiotics. Consideration of client compliance is paramount when choosing topical therapy.[2,3,4,5]

When faced with a patient with pyoderma, veterinarians need to choose carefully the best strategy for the management of that particular patient. For example, how involved is the owner, how much money are they willing to spend on treatment, how much time do they have available, and how concerned is the client with their pet´s disease? Client education is not only essential to achieving proper treatment and compliance for patients, but also has a substantial effect on disease prevention management and patient welfare. Generally, clients prefer fast results and less work making antibiotics more attractive. Taking the time to explain why topical therapy is the better option also requires time and patience, but can yield great results.

Treating bacterial infection with topical therapy requires management of concurrent pruritus and inflammation using an appropriate anti-inflammatory and anti-itch product. Recent publications suggest using steroids initially when inflammation is more severe and transitioning to more targeted therapies such as oclacitinib or Lokivetmab

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that have no or fewer side effects.[6] Choosing what to use requires a tailored and individualized therapy; some patients are not able to use steroids because of concurrent disease. Oclacitinib has been demonstrated to work as fast or faster than steroids in a previous study.[7]

In recent years in our practice, we have managed hundreds of patients using primarily topical therapy with excellent results avoiding unnecessary use of antibiotics. Generalized pyodermas respond very well to shampoo therapy. Deciding how often to bathe depends on the type of coat and size of the dog. Severe cases might benefit from bathing every other day, however this is not always possible. Using sprays or mousse on large areas are an easy way of medicating those areas without bathing.

Case presentation:

English Bulldog mix, 6 years old, weight 40.3Kg. Vet prescribed prednisone 1.3 years ago and the owners continued the medication at a dose of 25mg every day. The owners had no clear idea why the prednisone was prescribed. He had severe polyuria and polydipsia. On physical examination, calcinosis cutis was seen, and he had difficulty walking. Pyoderma, inflammation, cocci and rods were present on cytology. CBC and a chemistry panel were performed demonstrating changes related to steroid administration.

October 30, 2018 First visit - Prednisone was reduced and stopped after 3 weeks. Daily cleaning using BioHex™ (VetBiotek, Largo Florida) Shampoo containing chlorhexidine 2%, miconazole 2%, MicroSilver BG™, ceramide III was prescribed. DMSO roll-on was applied every other day to help reduce calcinosis cutis. Apoquel® (Zoetis USA) 16mg BID was started and tramadol was used for pain management initially. A Hydrolyzed diet ProPlan HA® (Purina USA), was also initiated.

November 15, 2018 Second visit - BioHex Shampoo was reduced to every other day, Rimadyl® 4mg/Kg SID 14 days was started, Apoquel 24mg SID was continued, and DMSO roll-on recommended three times per week.

February 5, 2019 - BioHex Shampoo was reduced to 2 times per week, Apoquel® reduced to 16mg SID, DMSO was no longer needed, and bloodwork showed marked improvement.

March 28, 2019 - BioHex was reduced to a once a week whole body shampoo. Apoquel was used only

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October 30, 2018
First Visit

November 15, 2018
Second Visit

February 5, 2019
Third Visit

March 28, 2019
Fourth Visit

when needed. He had lost 10Kg! He was maintained on hydrolyzed diet, as he had no more gastrointestinal problems and minimal itching.

No systemic antibiotics were used on this patient!

References:

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[6]Thierry Olivry, Frane Banovic. Editorial treatment of canine atopic dermatitis: time to revise our strategy Vet Dermatol 2019; 30: 87–90

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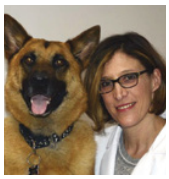

Dr. Sheinberg is a board certified veterinary dermatologist who works in a busy referral practice in Mexico City, Centro Veterinario Mexico. She consults on 240 to 260 dermatology cases per month. She successfully manages over 90% of her superficial pyoderma cases using topical therapy in lieu of antibiotics.