

Patch Testing for Canine Adverse Food Reactions

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In the Literature

Johansen C, Mariani C, Mueller RS. Evaluation of canine adverse food reactions by patch testing with single proteins, single carbohydrates and commercial foods. *Vet Dermatol.* 2017;28(5):473-e109.

FROM THE PAGE ...

Although less common than flea allergy and atopic dermatitis, cutaneous adverse food reaction (CAFR) is an important differential to consider in pruritic patients without parasites or infection. This is especially true when clinical signs, either strictly cutaneous and/or GI, are present in very young animals.¹ Elimination diet trials using either home-prepared or commercially available novel protein-carbohydrate diets or hydrolyzed protein sources are key to accurate diagnosis.

In this prospective, cross-sectional study, 25 client-owned dogs with confirmed CAFR underwent patch testing with various proteins (raw and cooked), carbohydrates, and commercial dry food diets. All dogs had previously undergone elimination diet trials with rechallenge to confirm CAFR. Individual ingredient provocations identified ingredients that led to positive responses (ie, increased pruritus of ≥ 3 points on a validated scale). Protected chambers containing various individual food allergens and commercial dry diets were then affixed to the dogs for 48 hours for patch testing; positive and negative reactions were recorded.

Patch testing sensitivity was found to be 100%, 70%, and 22.2% for proteins, carbohydrates, and commercial dry diets, respectively. Negative predictive values were 100%, 79%, and 72% for proteins, carbohydrates, and commercial diets, respectively. Positive predictive values were 75% for proteins and 74% for carbohydrates.

The authors concluded that patch testing may be helpful in identifying suitable protein sources for elimination diets. Carbohydrate patch test results were not as reliable as those for protein. Testing with commercial dry dog food did not appear to be useful.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** No available laboratory test (either serum-based or intradermal) reliably diagnoses CAFR. This holds true for patch testing as well, confirmed by the findings of this study. Elimination diet trials remain the gold standard for diagnosing CAFR in companion animals.
- 2** An elimination diet trial of at least 8 weeks' duration is recommended for CAFR diagnosis in dogs and cats.²
- 3** Careful and complete diet history is imperative for choosing a novel protein for consideration in an elimination diet trial. Cross-reactivity of closely related protein sources should be considered.¹ In addition, hydrolyzed versions of proteins to which a patient is allergic can manifest via pruritic flares.³

References

1. Gaschen FP, Merchant SR. Adverse food reactions in dogs and cats. *Vet Clin North Am Small Anim Pract.* 2011;41(2):361-379.
2. Olivry T, Mueller RS, Prélaud P. Critically appraised topic on adverse food reactions of companion animals (1): duration of elimination diets. *BMC Vet Res.* 2015;11:225.
3. Bizikova P, Olivry T. A randomized, double-blinded crossover trial testing the benefit of two hydrolysed poultry-based commercial diets for dogs with spontaneous pruritic chicken allergy. *Vet Dermatol.* 2016;27(4):289-e70.