반려견의 식이역반응, 아토피 피부염 증상 완화를 위한 영양학적 관리

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Dietary Management of Cutaneous Adverse Food Reaction and Atopic Dermatitis Symptoms in Dogs

우리와㈜ 펫푸드 연구소
박근현 책임연구원
2026. 07. 09.

Agenda

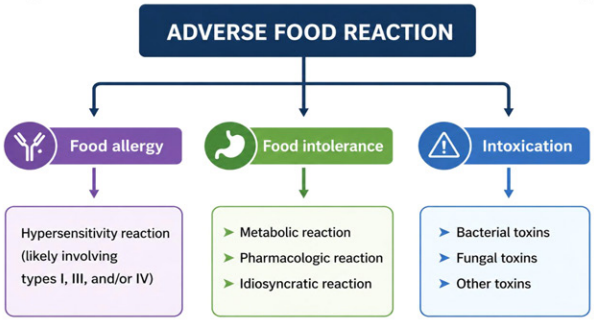
- Cutaneous Adverse Food Reaction and Atopic Dermatitis Symptoms
- Pathological Mechanism and Diagnosis
- Dietary Treatment Goals
- Animal Research Work

Cutaneous Adverse Food Reaction (CAFR)

Definition of CAFR:

"Cutaneous Adverse Food Reactions (CAFRs) are defined as reactions to an otherwise harmless dietary component, which are experienced by certain individuals on ingestion"

Gaschen and Merchant, 2011



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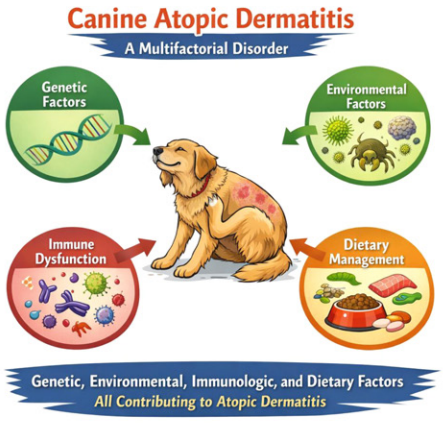
Canine Atopic Dermatitis

- Canine atopic dermatitis is a common chronic inflammatory skin disease affecting up to 20–30% of companion dogs.
- It is a multifactorial disorder involving genetic, environmental, and immunologic factors, and dietary management has recently been recognized as an important component in the prevention and control of the disease.



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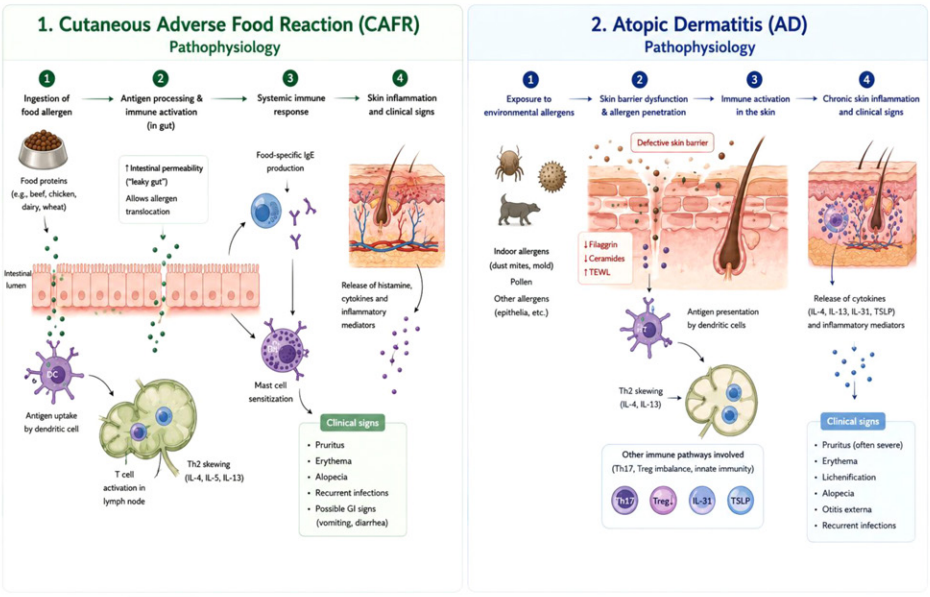
Pathological Mechanism



Abbreviations: **DC:** Dendritic cell **Th2:** T helper 2 **IgE:** Immunoglobulin E **IL:** Interleukin **TSLP:** Thymic stromal lymphopoietin **TEWL:** Transepidermal water loss

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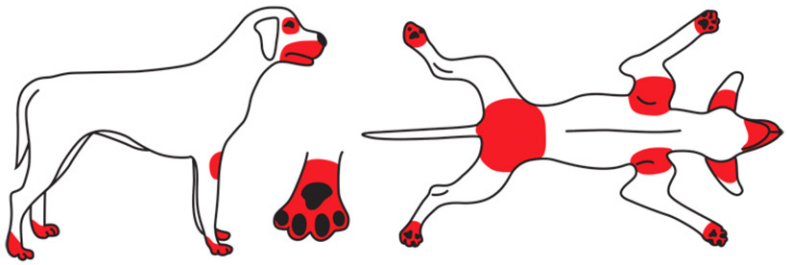
Common distribution of clinical lesions and pruritus



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Diagnostic Evaluation

Diagnostic Evaluation

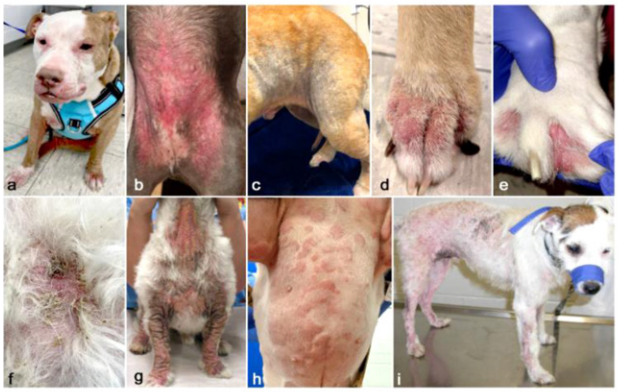
History Taking

Physical Examination

Rule Out Other Causes

Diagnostic Diet Trial

Response Assessment & Diagnosis



Bradley et al., 2023

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Dietary Treatment Goals

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Minimize Exposure to Dietary Allergens

Goal: Eliminate dietary antigens that trigger immune responses

- Dietary allergens are the primary trigger in dogs with CAFR.
- Novel protein or hydrolyzed protein (< 3 kDa) diets reduce antigen exposure and minimize immune stimulation.
- Elimination of allergenic proteins decreases mast cell activation and inflammatory mediator release.
- Dietary elimination remains the cornerstone of managing food-responsive skin disease.

가수분해 연어 단백질

가수분해 닭고기 단백질

가수분해 오리 단백질

Skin Barrier and Reduce Inflammation

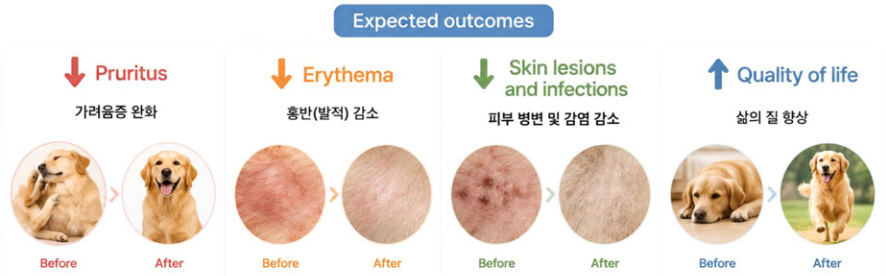
Goal: Restore skin barrier integrity and modulate inflammatory responses

- Skin barrier dysfunction facilitates allergen penetration and exacerbates inflammation.
- Omega-3 fatty acids (EPA and DHA) help reduce pro-inflammatory cytokine production.
- Essential fatty acids contribute to epidermal integrity and barrier function.
- Antioxidants such as vitamin E, vitamin C, and zinc help protect against oxidative stress.
- Improving skin barrier health reduces allergen exposure and chronic inflammation.

Alleviate Pruritus and Skin Lesions

Goal: Improve clinical signs and quality of life

- Persistent pruritus results in self-trauma and secondary infections.
- Nutritional intervention can reduce itching, erythema, and recurrent skin lesions.
- Lower inflammation contributes to decreased scratching behavior.
- Reduction of secondary bacterial and yeast infections improves clinical outcomes.



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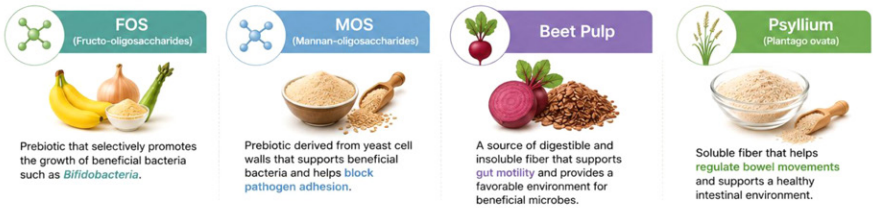
Gut Health and Immune Homeostasis

Goal: Support the gut-skin axis and maintain immune balance

- Gut microbiota play an important role in regulating immune responses.
- Dysbiosis has been associated with allergic skin diseases.
- Dietary fibers and prebiotics promote beneficial microbial populations.
- Ingredients such as FOS, MOS, beet pulp, and psyllium help maintain intestinal health.
- A healthy gut microbiome contributes to immune homeostasis and may reduce allergic inflammation.



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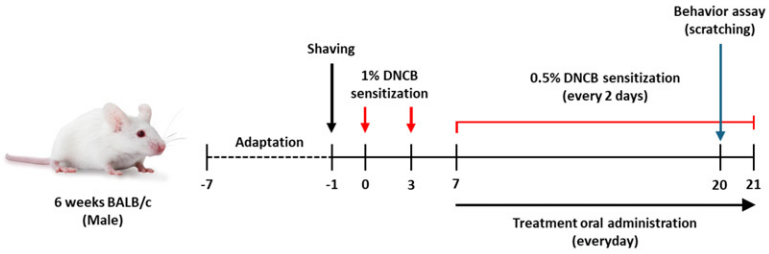
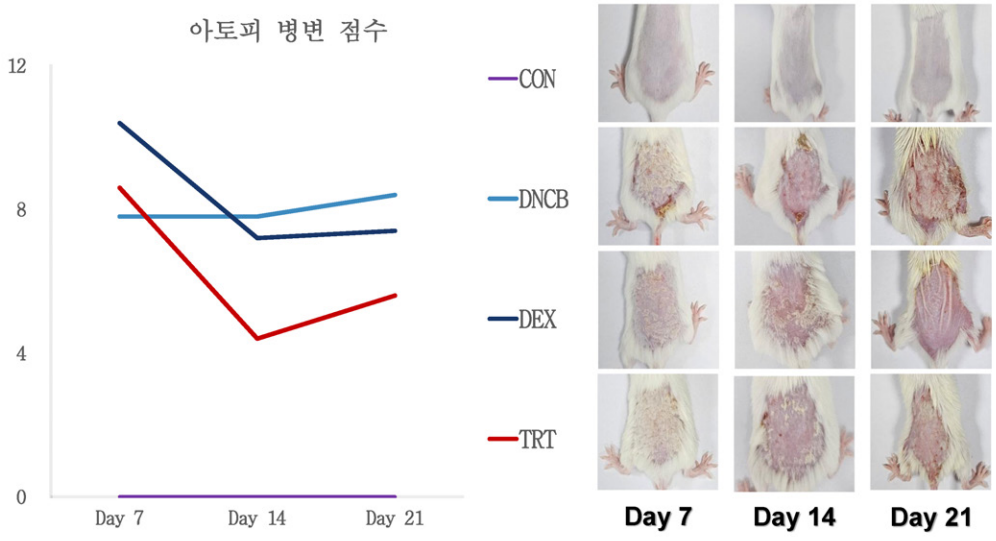
Animal Research Work – 1

V.O.M RX
Veterinary On Multifunction

Treatment	AD유도	Dexamethasone	아토피성 피부염 완화 물질
CON	-	X	X
DNCB	DNCB	X	X
DEX	DNCB	O	X
TRT	DNCB	X	O



Results: In vivo – mouse model



Animal Research Work – 2

Atopy Dermatitis (AD) group [Experimental group]

- 7 client-owned dogs diagnosed with canine atopic dermatitis (CAD).
  (PVAS score ≥ 3 and CADESI ≥ 20)
- Dogs receiving the newly developed V.O.M prescription diet (V.O.M Anti-pruritic + Calm).

Positive control (PC) group

- 7 client-owned dogs diagnosed with canine atopic dermatitis (CAD).
  (PVAS score ≥ 3 and CADESI ≥ 20)
- Dogs receiving the conventional atopic prescription diet.

Negative control (NC) group

- 5 client-owned clinically healthy dogs with no diagnosed specific diseases.
- Dogs receiving a standard commercial diet (Probest Dog Performance).

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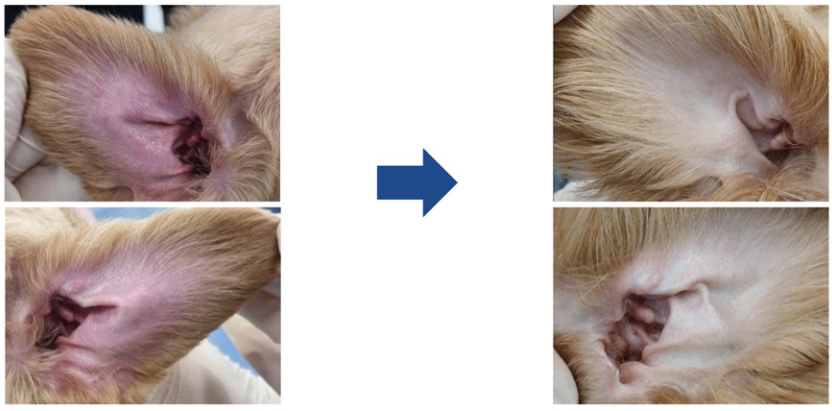
Results: Skin Lesion – 1

Week 0 **Week 8**



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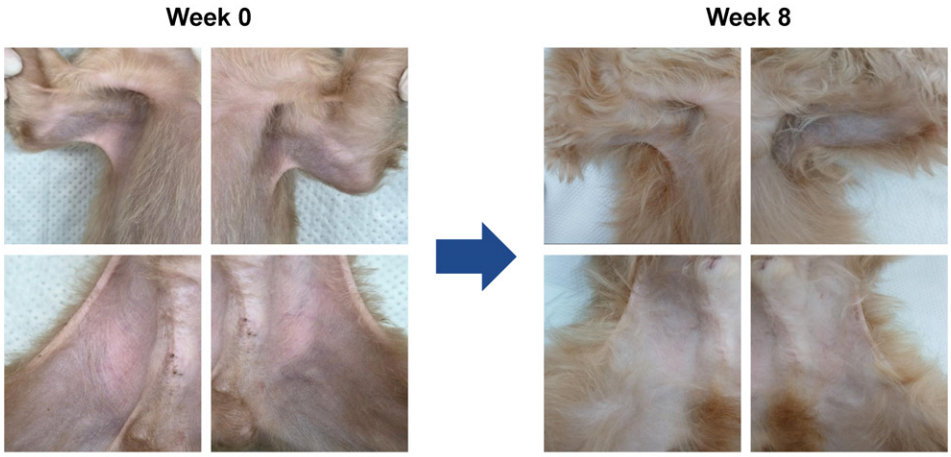
Results: Skin Lesion – 2



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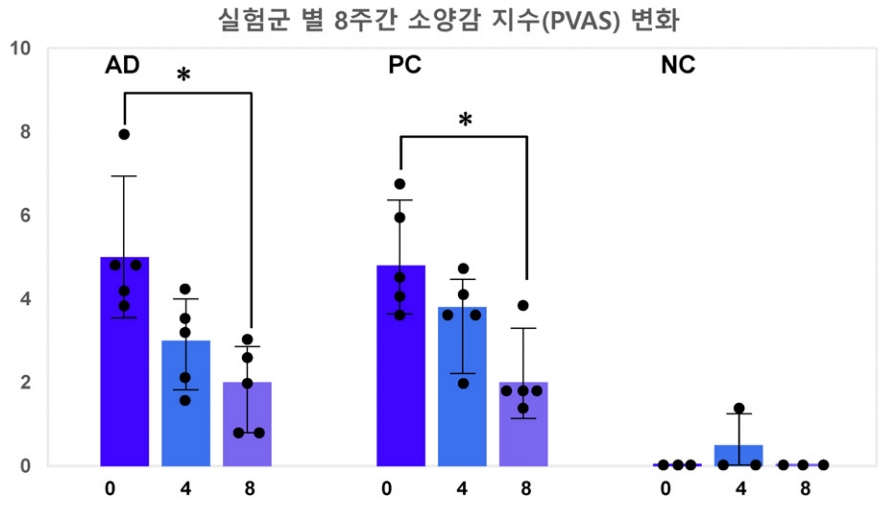
Results: PVAS

V.O.M RX



(A) AD group, (B) Positive control, (C) Negative control

Statistical significance was set at $*p < 0.05$

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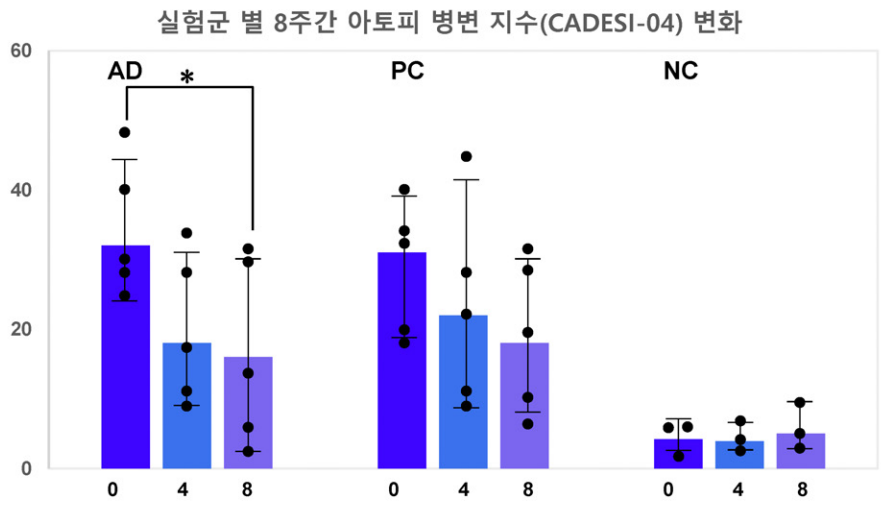
Results: CADESI-04



(A) AD group, (B) Positive control, (C) Negative control

Statistical significance was set at *$p < 0.05$

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Take Home Message

I. Avoid the allergen.

II. Support the skin barrier.

III. Modulate inflammation and gut microbiota.

IV. Nutrition is not a cure, but a powerful tool for long-term management of canine allergic skin diseases.

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wooriwa
우리와