PURINA® PRO PLAN® VETERINARY DIETS

This case report demonstrates the usefulness of PURINA® PRO PLAN® VETERINARY DIETS DRM Dermatosis in the nutritional management of a dietary intolerance in the dog

A case of dietary intolerance in a female Pinscher cross

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Details and case history

Zelda, a four-year-old female Pinscher cross, was presented for consultation with a two-year history of inflammatory and severely pruritic alopecic dermatosis showing no lasting improvement despite various treatments, accompanied by multiple episodes of diarrhoea. The animal had been taken into the household at the age of two months, with no health problems. She was correctly and regularly treated for fleas by monthly application of a Fipronil spot-on, as well as for internal parasites. Her vaccinations were up-to-date. She was receiving a commercial dry food bought from a pet shop (dry food for dogs "with sensitive skin", containing lamb and rice) mixed with some cooked rice to improve its palatability.

Serology for allergen-specific IgE, requested by a colleague, did not produce any results that were interpretable in practice (positive for storage mites, weakly positive for the house dust mite *Dermatophagoides farinae*).

To ease the pruritus, the owner was administering oral corticotherapy and regular soothing baths, with a temporary response that was becoming less and less satisfactory.

Photo 1 – General view of Zelda at first dermatology consultation

Clinical examination

At the first dermatology consultation, the animal presented with seborrhoeic, erythematous, hyperpigmented dermatosis in all skin folds (anal, inguinal) and on the paws, whisker pads and abdomen (photo 1). The top line was unaffected. She emitted a strong rancid odour; the pruritus was intense and had caused erosive self-trauma lesions.

Close examination showed marked lichenification of the perianal and subcaudal regions, as well as yellowish crusted plaques on the abdomen and in the inguinal folds (photos 2 to 4).

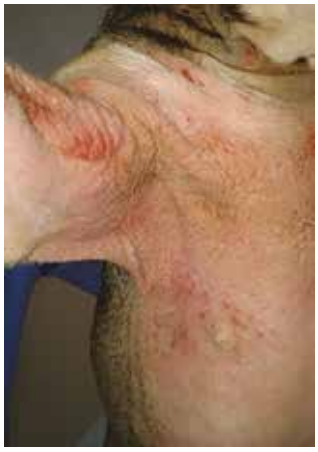

Photo 2 – Severe traumatic lesions due to intense pruritus

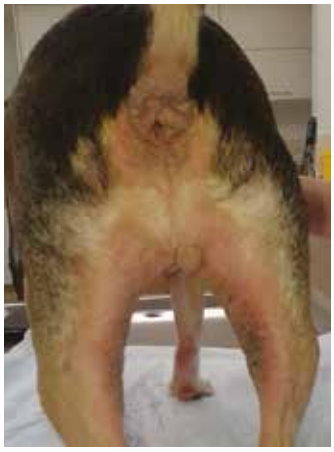

Photo 3 – Marked erythema, lichenification and hyperpigmentation of the perianal and subcaudal regions

Photo 4 – Seborrheic plaques, marked lichenification of abdomen and inguinal fold

Photo 5 – Right forepaw with erythema, alopecia and furuncle

The interdigital spaces were inflamed and a furuncle was visible between two toes on the right forepaw (photo 5). Bilateral erythemato-ceruminous otitis was also observed.

Clinical examination revealed no systemic abnormalities, although the animal appeared fatigued by the itching.

The picture was therefore one of chronic, severely pruritic, alopecic, erythematous, seborrhoeic dermatosis characterised by marked lichenification of the flexural folds and anogenital region, and associated with a non-suppurative bilateral otitis.

Differential diagnoses

Given the changes, very few primary lesions remained except for the erythema. It was therefore necessary to consider both an underlying cause and a secondary infectious component.

A parasitic origin (sarcoptic mange, demodicosis) or atopic dermatitis, possibly associated with an allergy/dietary intolerance, were potential diagnoses; dermatophytosis was less likely. Surface bacterial and fungal growth (dermatitis with secondary *Malassezia*) should be investigated.

Further investigations

The various scrapes revealed no evidence of mites. However, the skin cytology obtained by adhesive tape test showed a substantial population of bacteria (extracellular cocci) and rare yeasts of the genus *Malassezia*. Ear wax cytology also showed a large quantity of yeasts but no parasites. A carpet square submitted for mycological examination was negative for dermatophytes (Laboratoire DPM Oniris-Nantes).

In conclusion, the first visit revealed surface bacterial growth associated with an allergic or parasitic underlying cause and external otitis.

Initial treatment

To confirm or disprove the suspicion of sarcoptic mange, three applications of spot-on moxidectin (ADVOCATE®) were prescribed at three-week intervals. This was combined with comprehensive management of flea control in the animal's living environment (vacuuming, washing, and spraying of flea growth inhibitors). The surface bacterial growth was controlled by antibiotic therapy with an oral cephalosporin (RILEXINE® tablets) at a dose of 15 mg/kg morning and evening for four weeks and by weekly applications of a shampoo combining 2% chlorhexidine (digluconate) with 2% miconazole (nitrate) (ADAXIO®). The otitis was treated with a wax-dissolving ear cleaner (EPI-OTIC®) and a multi-purpose topical suspension (EASOTIC®).

The skin's appearance improved substantially and the erythema subsided, with only a few squamous crusts remaining. The odour was more tolerable, but the pruritus remained excessive.

After a month, the pruritus worsened again and the weekly shampoos with ADAXIO® were not enough to stabilise the situation. Further cytology showed no recurrence of the microbial growth. The animal was therefore prescribed an oral cyclosporin (CYCLAVANCE®) which was discontinued after a few days at the owner's request due to diarrhoea and painful GI spasms which reappeared despite a 48-hour interruption.

A month later, with the pruritus remaining excessive and in the absence of new infections (negative cytology), we decided to investigate an underlying allergic aetiology. Given the strong likelihood of atopic dermatitis (the seven Favrot criteria were present), the inconclusive serology from a few months previously, and the lack of response to miticide treatment, we decided to introduce a hypoallergenic elimination diet in order to assess the possible involvement of dietary sensitivity in the pruritus and clinical picture.

The food Canine DRM Dermatosis® was prescribed. No other topical or systemic treatment was allowed during the eight weeks of the diet.

Acceptance of the new dry food was immediate and with no side effects apart from a temporary softening of the stools. At the first follow-up visit after one month, the dog's owner reported an early improvement which was confirmed on clinical examination (photos 6 to 8). The erythema and lichenification had diminished, as had the self-inflicted lesions due to the pruritus, which appeared to have halved in intensity. The dog had more energy and the odour associated with the seborrhoea was less noticeable.

Photo 6 – After one month on Canine DRM Dermatosis, decreased inflammation on the limbs

Photo 7 – After one month close view

Photo 8 – After one month, close view of pericaudal region with decreased lichenification

The strict diet was continued for a second month in view of the positive response. The condition of the dog's skin normalised, but the inflammation did not disappear entirely. A few areas of inflammation remained in the flexural folds and perianal region, but with no lichenification or hyperpigmentation (photos 9 to 11).

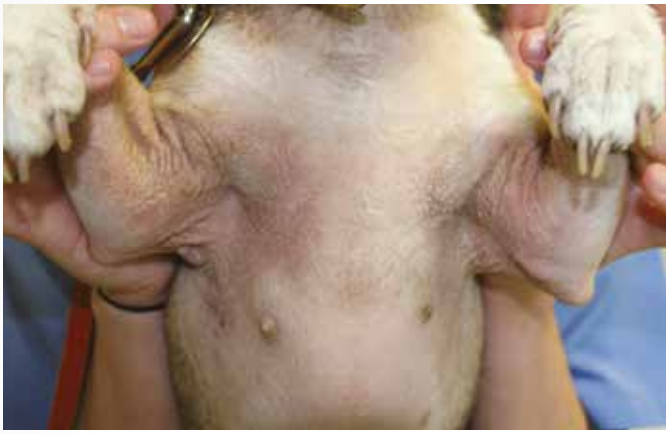

Photo 9 – After 2 months on Canine DRM Dermatosis clear improvement of erythema, (discrete lichenification still visible)

Photo 10 – After 1 month Canine DRM Dermatosis, decreased inflammation on the limbs

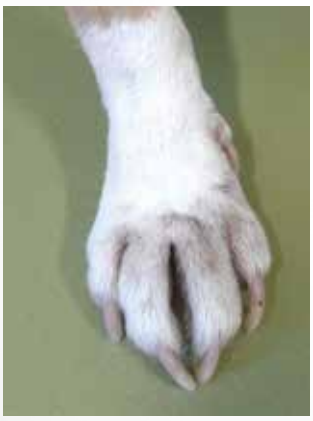

Photo 11 – after 2 months, close view of the forepaw with complete remission (only discrete alopecia still visible)

The appearance of the skin was much more acceptable to the owner. In particular, the itching was now at a lower level which did not affect the animal's quality of life or justify management by means of oral anti-inflammatories. Flea control was by monthly administration of afoxolaner in tablet form (NEXGARD®).

Feeding with Canine DRM Dermatosis® was therefore continued and is still being maintained more than four months after its introduction. Regular use of the antiseptic shampoo (ADAXIO®) was resumed in order to control the inflammatory and infective flare-ups in the areas of friction.

The case presented here is one of complex dermatosis combining a chronic allergic condition with secondary infections that had been poorly managed previously despite appropriate flea control. Management of the bacterial growth improved the clinical picture but did not improve the pruritus sufficiently, so the prescribing of a hypoallergenic food as part of an elimination diet was entirely appropriate. The aim was to improve the intensity of the itching, which was extensive, and of course to avoid any recurrence of lesions. The previous overuse of corticosteroids and the intolerance to cyclosporin left no alternatives apart from oclacitinib.

The therapeutic approach was in line with current recommendations: given a suspected diagnosis of atopic dermatitis, investigation for dietary hypersensitivity is indicated, ideally before any investigations for specific airborne allergens by intradermal skin testing or ige serology. The elimination diet was to follow the established protocols requested in this trial: eight to ten weeks, no other food or treats, no other oral or topical dermatological treatment. The use of a hydrolysed commercial food is sometimes recommended but is not essential in first-line therapy, as hydrolysate increases digestibility and reduces allergenicity.

The palatability of Canine DRM Dermatosis® was very good in this case, with an easy introduction; temporary soft stools were the only side effect reported.

The highly satisfactory clinical response confirmed hypersensitivity to one or more dietary allergens ingested previously by the dog. In other circumstances, a provocation test (using the diet fed previously) would have been indicated. As is often the case, the owner did not wish to change the new diet, which had finally delivered a suitable, practical solution for the management of the animal's debilitating pruritic dermatosis. A provocation test was not attempted.

Several months later, the condition of the dog's skin remains satisfactory and does not require oral anti-inflammatories. A recurrence of secondary infections has been prevented to date by regular shampooing with anti-infective agents. The hyperpigmentation and lichenification which were the most significant chronic secondary lesions have also remained under control.

Conclusion

Canine DRM Dermatosis® was used successfully in this case of long-standing atopic dermatosis after prior management of the surface bacterial and fungal complications.

No other treatment was required during the two months of the elimination diet. The product's original composition, containing unusual animal and vegetable proteins (herring, rapeseed, peas, etc.), limits the risk of dietary sensitivity (immune or otherwise) and its levels of essential omega-3 fatty acids and nutrients (vitamins, zinc, amino acids) help to promote the forming of an effective, permeable skin barrier.

As part of the current concept of limiting inflammatory flare-ups observed in the long-term management of canine atopic dermatitis, the feeding of a high-quality dermatological diet has a definite role to play and also limits the use of often-expensive systemic treatments and encourages owner compliance.