

Fourth World Congress Veterinary Dermatology Summary (WCVD)

By Dr Carmen Lorente, DVM, PhD, DipECVD EBVS® European Specialist in Veterinary Dermatology

This fourth summary from the digital World Congress in Veterinary Dermatology 2020 (WCVD) is dedicated to equine dermatology. The summary below comes from lectures provided by Dr Danny Scott, Dr Rosanna Marsella and Dr Eliane Marti.

What are the common clinical skin signs in allergic horses?

The main clinical sign is lesionless pruritus. Stimuli can be tolerated until the pruritus threshold is achieved and the animal begins to scratch. Once scratching begins, secondary lesions such as excoriations, scaling, crusts, alopecia, hyperpigmentation and acanthosis appear. The clinical picture is frequently complicated by secondary infections (bacteria and even yeasts). Lesions can be on the face, pinnae, legs, trunk or generalised.

Other skin reaction patterns include urticaria, sterile eosinophilic folliculitis, eosinophilic granuloma, vasculitis.



Which allergens are implicated in allergic dermatitis in horses?

Allergic dermatitis in horses can be due to food, insects and environmental allergens (mites, pollen, moulds). It is rare to have only one type of allergy.

Insect-bite allergy is the most common seasonal allergic skin disease in horses.

There is a familial/genetic predisposition for insect-bite allergy in Icelandic ponies, German Shire, Arabian and the Quarter Horse.

Diagnostic protocol for pruritic diseases

Anamnesis and clinical exam are crucial to list differential diagnosis in priority order.

In general:

1. - Diagnose or rule out pruritic ectoparasitic diseases (psoroptic mange, chorioptic mange, trombiculosis)
2. - Evaluate by clinical exam and cytology secondary bacterial or yeast infections
3. - Diagnose allergic diseases (insect-bite dermatitis, food allergic dermatitis and/or atopic dermatitis)

Insect-bite dermatitis

Insect-bite dermatitis is a relapsing seasonal allergic dermatitis caused principally by the bites of Culicoides (midges) and other insects (Simulium, Culex, Tabanus, Musca). The bites cause mechanical skin damage and allergic reaction to the injected saliva (pharmacologically active components).

The distribution of the lesions are dorsal or ventral, but both can appear in the same animal at the same time. "Buzzed mane", "rat tail", lesions on the intermandibular space and vertical oriented symmetrical lesions on shoulders are very typical in insect-bite dermatitis.

Culicoides hypersensitivity (CH)

Culicoides (CH) hypersensitivity is widespread throughout the world except for Iceland and can be affected all horses' breeds. It usually begins at the age of 2-3 years. If not controlled, Culicoides hypersensitivity worsens other allergies.

The prevalence of CH in imported Icelandic horses can reach 60%. This could be due to Icelandic horses having no Culicoides present in their land of origin since. The incidence of CH in the offspring of imported Icelandic horses is similar to that of other breeds, between 7% and 10%.

How to diagnose and treat food allergy dermatitis?

Food allergy dermatitis in horses can be seasonal and nonseasonal, as some horses change food according to season. It can develop at any time and age, but it is most common in atopic individuals and young horses.

Wheat, barley, oats, corn, molasses, soy, yeast, alfalfa and peanut hay are the most common food allergens to horses.

The diagnosis is made after the resolution of clinical signs with a restricted food trial and pruritus return with the old diet. It is needed to stop all flavoured supplements. The diet has to be balanced according to the age and energy requirements of the horse. If grain is needed due to energy requirement, it is needed to switch commercial product to a single grain.

Beet pulp and alfalfa oil could be used as supplemental feed.

Allergen tests and history are used to select the ingredients for the restricted diet.

Equine atopic dermatitis

The median age of onset is 9.6 years (1- 22 years). Thoroughbred, Arabian, Quarter Horse, Morgan and Warmbloods horses are predisposed breeds, but atopic dermatitis can appear in every breed. Up to 20% of atopic horses have a concurrent insect-bite allergy, which challenges the treatment.

The diagnosis is based on clinical history, physical examinations and ruling out other pruritic diseases and allergies.

Allergen tests are not diagnostic but are needed to identify the allergens to include in the Allergen-specific immunotherapy (ASIT). Higher sensitivity and specificity of serological allergen tests are obtained with the Fcε-receptor technology, with excellent agreement between IDT and serology, and no difference in ASIT efficacy from results obtained with IDT versus serology.

How to manage the allergic horse?

Atopic horses can develop cutaneous or respiratory clinical signs, some horses can develop both manifestations. Clinical signs can be seasonal, seasonal to non-seasonal and perennial.

The treatment approach to an allergic horse has to be multimodal considering all of the following items:

1. - Avoid contact with the involved allergens - only possible in food allergy dermatitis and insect bite dermatitis
2. - Diagnose and treat secondary infections if they are present
3. - Use of antipruritic drugs - short and long term approach
4. - Allergen-specific Immunotherapy - long term approach
5. - Topical treatment

How to avoid contact with insects?

It is no easy to avoid contact with the insects, but several measures must be applied:

- Use of repellents. It can be daily needed (1-2% permethrin, Cypermethrin, Neem oil)
- Move horses away from paddocks close to water
- Use mosquito magnet
- Use fly masks or other protection (take care about to generate a closed environment with humidity that can produce severe secondary infections)
- Stabling from dusk to dawn and install stall fans and fine mesh screens

Which drugs are useful to decrease inflammation and pruritus?

The short-term treatment approach aims to decrease inflammation and pruritus. This involves the use of glucocorticoids (GC). Oral prednisolone or dexamethasone are the most effective treatment for acute pruritus. For longer use, prednisolone is a safer option, as dexamethasone can precipitate laminitis in predisposed individuals. Please avoid the use of long-acting injectable glucocorticoids as they increase the risk of secondary adverse effects.

Apoquel has been used in pruritic horses with success as well as gabapentin.

Topical glucocorticoids or tacrolimus can be used for localised pruritic or lesional areas.

Antihistamines (hydroxyzine, diphenhydramine, chlorpheniramine) are rarely effective as monotherapy but can help decrease GC or prevent an acute crisis.

Shampoos, sprays and conditioners can help to control pruritus as adjunctive therapy.

Long term treatment approach: Allergen-specific immunotherapy

Allergen-specific immunotherapy is the recommended treatment for long-term management. ASIT is safe and very effective in horses (60-80%) achieving, in most cases, the remission of clinical signs and the interruption of drug treatment.

There are ASITs for subcutaneous (SQ) or sublingual (SLIT) use in horses.

What will the future bring in the treatment of allergy in horses?

IL-5 and IL-31 have been shown as the principal itching mediators in horses. Several groups focus their research on monoclonal antibodies against IL-5 and IL-31 and active immunisation with IL-5 or IL-31 to treat pruritus in horses.

Related to CH, to date, allergen extracts for allergy tests (IDT and serology) are made from the insect's whole body. Up to 27 different Culicoides allergens have been identified, and now the research is focused on developing allergen extracts that include Culicoides major allergens. These new extracts will increase the sensitivity and specificity of allergen serologic tests and immunotherapy efficacy against Culicoides.