Pododermatitis
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What is pododermatitis?

Pododermatitis is a term used to describe inflammation affecting the skin of the feet. It often causes dogs to have swollen, red and itchy feet, which can progress to painful sores if left untreated. In very severe cases, dogs can even become lame. This is a relatively common skin problem in dogs and can be present on its own or as part of a more widespread skin problem. There are many causes of pododermatitis and in some patients more than one cause is present at the same time. It is important to obtain an accurate diagnosis so that the right treatment can be selected.
What causes pododermatitis?

Parasites
The parasitic mite Demodex can infect the haired skin of the feet and result in pododermatitis. Demodex mites are present in very low numbers in the skin of all dogs, but in some patients, either due to a genetic susceptibility, or due to a process that lowers the immune system, these mites can populate the skin in very large numbers causing disease. Pododermatitis due to these mites tends to result in hair loss, swelling and bleeding sores in some cases (Figure 1). This mite is not infectious to other animals or people, but requires specific treatment to reduce mite numbers down to normal levels again. Very rarely, other parasites can also contribute to pododermatitis.

Foreign bodies
Foreign bodies like grass seeds are a very common cause of pododermatitis in dogs. Foreign bodies tend to penetrate the skin of the feet when dogs are out walking/running and then trigger inflammation when they become trapped within the feet. The body often attempts to ‘expel’ these structures resulting in painful and often discharging lumps between the toes. Affected patients often lick and chew at the affected sites. Foreign bodies are particularly likely when one lesion is present on one foot.

Allergies
Allergic diseases in dogs and cats are very common, and results in inflammation in the skin. This inflammation is very commonly seen affecting the feet, and results in redness, excessive licking and chewing at the affected sites (Figure 2). The most common triggers for allergic pododermatitis are food items and environmental substances such as dust mites and pollens, and skin disease usually starts in early life between the ages of 6 months and 3 years.

Deep infections
A very common feature of pododermatitis, particularly in dogs, is a deep infection of the feet. This is usually due to bacteria, but can be due to rare fungal organisms, and often results in multiple painful,

Figure 1  A case of pododermatitis due to Demodex mites (feet have been clipped for cleaning)

Figure 2  The paw of a dog showing redness and inflammation due to allergy

Figure 3  Bleeding lumps between the toes due to deep bacterial infection
swollen and discharging lumps. Affected animals usually lick and chew excessively and can become lame in severe cases. Bleeding lesions are relatively common with deep infections (Figure 3).

Conformation
A frustrating cause of pododermatitis is termed conformational pododermatitis. This usually occurs in heavy set dogs with excessively splayed feet. This results in weight bearing on hairy parts of the foot adjacent to the footpads and triggers inflammation of the hair follicles. Over time, this inflammation damages the hair follicles and results in chronic inflammation with the feet. Dogs with this condition tend to have large areas of pad extension, with painful and swollen lumps around the toes (Figure 4).

Hormonal diseases
Certain hormonal diseases can also be involved in the development of pododermatitis as the local skin immune system is reduced and the ability to fend off infections is compromised. The most commonly involved diseases include an underactive thyroid gland (hypothyroidism) or overactive adrenal glands (Cushing's disease). However, pododermatitis is a relatively rare symptom of these diseases and dogs and cats usually show other more characteristic symptoms.

How is pododermatitis diagnosed?
Diagnosis of pododermatitis can often be achieved following a thorough evaluation of the history and clinical signs. Hair plucks and skin scrapings are performed to diagnose Demodex mite infestation and swab samples are often taken to establish if an infection is present. If lumps are discharging fluid, a sample of this fluid may also be sent to a laboratory to grow (culture) any infectious organisms. If the clinical picture is very suggestive of a foreign body, X-rays may be needed along with a surgical procedure to remove the offending item. Allergies are often only diagnosed once infections/parasites are treated and removed. If redness and inflammation remain, allergy testing may be required. Hormonal diseases are often suspected if other clinical signs are present but usually require blood testing to diagnose. Conformational pododermatitis is usually diagnosed by examining the feet and assessing the shape (conformation) of the footpads.

What are the treatments available?
Treatments for pododermatitis vary depending on the underlying cause. Parasitic infestations are usually treated with dips/rinses for the feet. Deep infections are often treated with long courses of antibiotics or antifungal medications in the rare cases due to fungal infection. Foreign bodies are best treated by identifying the foreign body and removing it in a minor surgical procedure. Hormonal diseases require treatment specific to the condition, but sometimes involve supplementing with hormone, as is the case in hypothyroidism. Allergic diseases are treated by identifying the triggers and removing them if possible. Conformational pododermatitis is perhaps the most difficult to treat, as the defect is due to the conformation of the patient. Many of these cases can only be managed rather than cured and require modifications such as protective boots, good foot hygiene and avoidance of rough and uneven terrain. In some of the very worst cases, conformational pododermatitis can be corrected with surgery to fuse the toe webs together.

What is the prognosis?
As there are numerous causes of pododermatitis and more than one can be present at the same time, a good prognosis depends on identifying all the contributing factors and correcting them if possible. If this can be done, the vast majority of cases will have a good outcome. Cases of conformational pododermatitis are rarely cured, and require long term management.

Why should I bring my pet to Willows?
Our dermatology service is led by a recognised, accredited Specialist and we aim to provide the best possible care and treatment for your pet in our state-of-the-art hospital. Our dermatologist works closely with Specialists in the disciplines of Internal Medicine, Orthopaedics, Soft Tissue Surgery, Neurology, Ophthalmology, Oncology and Anaesthesia and the hospital provides 24-hour veterinary and nursing care to ensure the best possible outcome in each and every case.

If you have any queries or concerns, please do not hesitate to contact us.
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