

PODODERMATITIS

(INFLAMMATION OF SKIN OF THE PAWS)

BASICS

OVERVIEW

- “Podo-” refers to the feet or paws; “dermatitis” is the medical term for inflammation of the skin
- “Pododermatitis” is an inflammatory, multifaceted group of diseases that involves the feet of dogs and, less commonly, cats

SIGNALMENT/DESCRIPTION of ANIMAL

Species

- Dogs—common
- Cats—uncommon

Breed Predispositions

- Short-coated breeds of dogs—most commonly affected; English bulldogs, Great Danes, basset hounds, mastiffs, bull terriers, boxers, dachshunds, Dalmatians, German shorthaired pointers, and Weimaraners
- Long-coated breeds of dogs—German shepherd dogs, Labrador retrievers, golden retrievers, Irish setters, and Pekingese
- Cats—none

Predominant Sex

- Dogs—male

SIGNS/OBSERVED CHANGES in the ANIMAL

- Vary considerably depending on the underlying cause

Pododermatitis in Dogs

- Reddened paws (known as “erythema”)
- Fluid build-up (known as “edema”) of the tissues of the paws
- Small, solid masses (known as “nodules”)
- Thickened, raised, flat-topped areas that are slightly higher than the normal skin (known as “plaques”)
- Variable degrees of loss of the top surface of the skin (known as “erosions” and “ulcers”, based on depth of tissue loss)
- Draining tracts
- Blood blisters
- Discharge from the paws may be blood-tinged or may contain pus
- Dried discharge on the surface of the skin lesion (known as a “crust”)
- Inflammation of soft tissue around the nail (known as “paronychia”)
- Paws may be swollen
- May have hair loss (known as “alopecia”) and may be moist from constant licking
- Paws may be saliva stained (have a rust-colored or brownish staining)
- Paws may be painful and/or itchy (known as “pruritus”)
- Regional lymph nodes may be enlarged
- Thickening of the skin (known as “hyperkeratosis”) of the footpads
- Lameness

Pododermatitis in Cats

- Painful inflammation of soft tissue around the nail (paronychia), involving one or more claws
- Small, solid masses (nodules)
- Loss of the top surface of the skin (ulcers)
- Footpads—commonly involved
- Dried discharge on the surface of the skin lesion (crusts)
- Thickened, raised, flat-topped areas that are slightly higher than the normal skin (plaques)
- Thickening of the skin (hyperkeratosis) of the footpads
- Draining tracts
- Paws may be swollen
- Lameness
- Paws may be painful and/or itchy (pruritus)
- Footpads may have loss of pigment (known as “hypomelanosis”) or may have increased pigment (known as “hypermelanosis”)

CAUSES

Infectious Pododermatitis in Dogs

- Bacterial infections—*Staphylococcus intermedius*, *Pseudomonas*, *Proteus*, *Mycobacterium*, *Nocardia*, or *Actinomyces*

- Fungal infections—dermatophytes (a fungus living on the skin, hair, or nails); sporotrichosis; or deep fungal infections (blastomycosis, cryptococcosis)
- Parasitic infections—demodectic mange in dogs (*Demodex canis*), rhabditic dermatitis (*Pelodera strongyloides*), and hookworms
- Protozoal infections—leishmaniasis

Infectious Pododermatitis in Cats

- Bacterial infections—*Staphylococcus intermedius*, *Pseudomonas*, *Proteus*, *Pasteurella*, *Mycobacterium*, *Nocardia*, or *Actinomyces*
- Fungal infections—dermatophytes (a fungus living on the skin, hair, or nails); sporotrichosis; or deep fungal infections (cryptococcosis)
- Parasitic infections—*Neotrombicula autumnalis*, *Notoedres cati*, or *Demodex*
- Protozoal infections—*Anatrichosoma cutaneum*

Allergic Pododermatitis

- Dogs—atopy (disease in which the animal is sensitized [or “allergic”] to substances found in the environment [such as pollen] that normally would not cause any health problems); food hypersensitivity; allergic contact dermatitis (inflammation of the skin secondary to contact with some substance to which the animal has an allergic reaction)
- Cats—atopy; rare for flea-allergy dermatitis, food hypersensitivity, or contact dermatitis to involve the paws

Immune-Mediated Pododermatitis

- Dogs—pemphigus foliaceus; systemic lupus erythematosus; erythema multiforme; toxic epidermal necrolysis; inflammation of blood vessels (known as “vasculitis”); cold-agglutinin disease; pemphigus vulgaris; bullous pemphigoid; epidermolysis bullosa acquisita
- Cats—pemphigus foliaceus; systemic lupus erythematosus; erythema multiforme; toxic epidermal necrolysis; inflammation of blood vessels (vasculitis); cold-agglutinin disease; plasma-cell pododermatitis

Hormonal Pododermatitis

- Dogs—decreased levels of thyroid hormone (known as “hypothyroidism”); increased levels of steroids produced by the adrenal glands (known as “hyperadrenocorticism” or “Cushing’s disease”); hepatocutaneous syndrome (rare skin condition that develops in patients with liver disease or other metabolic diseases)
- Cats—increased levels of thyroid hormone (known as “hyperthyroidism”); increased levels of steroids produced by the adrenal glands (hyperadrenocorticism or Cushing’s disease); diabetes mellitus (“sugar diabetes”); hormonal pododermatitis is rare in cats

Cancer

- Dogs—squamous cell carcinomas; melanomas; mast cell tumors; keratoacanthomas; inverted papillomas; eccrine adenocarcinomas
- Cats—papillomas; spinocellular epithelioma; trichoepithelioma; fibrosarcoma; malignant fibrous histiocytoma; metastatic primary adenocarcinoma of the lung; other cancers that have spread (known as “metastatic carcinomas”)
- Higher incidence in cats than in dogs

Environmental Causes

- Dogs—irritant contact dermatitis (inflammation or irritation of the skin secondary to contact with some substance to which the dog comes in contact); trauma; concrete and gravel dog runs; excessive exercise; clipper burn; foreign bodies (such as grass lawns, bristle-like hairs of short-coated dogs); thallium toxicity (a type of heavy metal poisoning)
- Cats—irritant contact dermatitis (inflammation or irritation of the skin secondary to contact with some substance to which the cat comes in contact); foreign bodies; thallium toxicity (a type of heavy metal poisoning)

Miscellaneous

- Dogs—sterile interdigital granulomas (a mass or nodular lesion located between the toes)

RISK FACTORS

- Lifestyle and general husbandry conditions—influence development of inflammation of the skin of the paws (pododermatitis)
- Excess exercise, abrasive or moist housing, poor grooming, and/or lack of preventive medical practice may increase likelihood of developing pododermatitis or worsen the condition

TREATMENT

HEALTH CARE

- Outpatient, unless surgery is indicated
- Foot soaks, hot packing, and/or bandaging may be necessary, depending on cause

ACTIVITY

- Depends on severity of lesions and underlying cause

DIET

- Hypoallergenic diet—if food hypersensitivity or allergy is suspected

SURGERY

- Skin biopsy
- Melanomas and squamous cell carcinomas—very poor prognosis; early diagnosis necessitates surgical removal of the digit, digits, or paw
- Infectious pododermatitis—may benefit from surgical removal of diseased tissue before medical therapy

MEDICATIONS

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

- Depend on underlying cause and presence of secondary infections
- Medications may include long-term antibiotics, antifungals, steroids, chemotherapeutic agents, hormone-replacement therapy, zinc supplementation, or intravenous amino acids

FOLLOW-UP CARE

PATIENT MONITORING

- Depends on underlying cause and treatment protocol selected

PREVENTIONS AND AVOIDANCE

- Environmental cause—good husbandry and preventive medical practices should avoid recurrence
- Allergic cause—avoid the allergen (environmental or food), if possible; “allergens” are substances to which the animal has developed an allergy

POSSIBLE COMPLICATIONS

- Depend on underlying cause and treatment protocol selected

EXPECTED COURSE AND PROGNOSIS

- Success of therapy depends on finding the underlying cause; often the cause is unknown; even when the cause is known, management can be frustrating due to relapses or expense of treatment
- Often the disease only can be managed and not cured
- Surgical intervention is sometimes the only option

KEY POINTS

- Depend on underlying cause and severity of condition
- Good husbandry and preventive medical practices are necessary
- Pododermatitis will be managed, but not cured, in many cases

