

ACRAL LICK DERMATITIS (ACRAL LICK GRANULOMA, LICK GRANULOMA)

ACRAL LICK DERMATITIS REFERS TO A SELF-INFLICTED FOCAL LESION usually found occurring on a distal (acral) extremity. Favoured sites for the excessive compulsive licking, which produces the lesion, are most commonly on the anterior carpal or metatarsal skin.

The problem tends to occur in middle-aged to older breeds such as the Doberman, Great Dane, Golden Labrador, Labrador retriever, German shepherd and Boxer, although it may occur in other breeds including crossbreeds.

Clinical features

- Initially the lesion, in one of the sites mentioned, tends to be quite small but with increased licking slowly enlarges.
- If untreated the lesion passes through various stages (Hnilica, 2011). Alopecia develops and the lesion becomes firm, raised, thickened and plaque-like (**Figures 1 and 2**). Later there is nodular ulceration, fibrosis and hyperpigmentation (**Figure 3**). Secondary infection at the later stage is very common and is a deep pyoderma. Untreated cases may progress to furunculosis.
- Damage to hair shafts due to the licking may penetrate into the dermis and will accentuate the deep pyoderma. In one study, deep pyoderma was present in 94% of acral lick lesions (Shumaker and others, 2008).
- Whatever the initiating cause, the problem can quickly become self-perpetuating with the development of an itch-lick cycle.

Differential diagnosis

(Hnilica, 2011)

- Atopic dermatitis.
- Food hypersensitivity.



Figure 1. An early acute lesion of acral lick dermatitis in a Labrador.

- Trauma.
- Foreign body reaction.
- Deep pyoderma.
- Pododemodiosis.
- Hypothyroidism.
- Neuropathy.
- Osteopathy.
- Arthritis.

Underlying factors

In addition to the diseases listed in the differential diagnosis, many authorities suggest that a major component in acral lick dermatitis is psychological. One specialist states that although environmental stress may be a factor, other causes are usually more important (Hnilica, 2011) and these are listed under the differential diagnosis. It is suggested that differential diagnosis rule-outs are investigated before considering psychogenic underlying causes.

An additional complication is that even if the original cause is psychogenic, secondary infection is very common and will need to be treated before further evaluation. The list of possible psychological causes cited here has not changed from that in previous editions of a standard text in the last 20 years or so of previous editions.

Possible psychological factors

(Miller, Griffin and Campbell, 2013)

- The dog is left alone all day.
- The dog is confined for long periods to a crate, kennel, cage or run.
- There is a new pet in the home.
- A female dog is in heat nearby but



Figure 2. A more advanced lesion in a Labrador with secondary infection.

not accessible to the dog.

- A new dog has come to the neighbourhood.
- A death has occurred in the family.
- A long-time companion of the dog has died.
- Children or other members of the family have moved away.

Diagnosis

- The history (breed predisposition, licking) and clinical findings are very suggestive.
- Investigation of underlying causes listed under differential diagnosis.
- Biopsy for histopathological examination. Biopsy may also be used for bacterial culture as secondary infection is likely to be deep. In these cases, sterile preparation of the surface is required.
- Histopathological findings are often helpful in confirming the diagnosis if doubt exists. Findings include epidermal hyperplasia with marked rete ridge formation, compact orthokeratotic hyperkeratosis, which strongly suggests chronic surface irritation, and fibrosis of the dermal papillae.

The orientation of the collagen is perpendicular to the skin surface, though not to the basement membrane (Yager and Wilcock, 1994).

Clinical management

The treatment of the lesion will depend on how long it has been present and what stage has been reached.

Acral lick dermatitis has multifactorial causes and some aspects are still poorly understood. As a result many treatments have been advocated. In more advanced cases a collaboration between dermatology and behavioural specialists is more likely to be effective than individual specialists alone.

For early mild lesions

- Topical glucocorticoids and bandaging to prevent further trauma. This is often not successful. Licking elsewhere while a bandage is protecting the lesion tends to suggest an unresolved underlying psychological problem, however.
- Sub-lesional injections of glucocorticoids may break the itch-lick cycle, but should not be used in more chronic cases where secondary pyoderma is a likely complication.

For chronic lesions

- Chronic lesions with secondary deep pyoderma require long-term antimicrobial systemic therapy based on sterile deep biopsy sampling. Treatment will be required for six to eight weeks and as long as four to

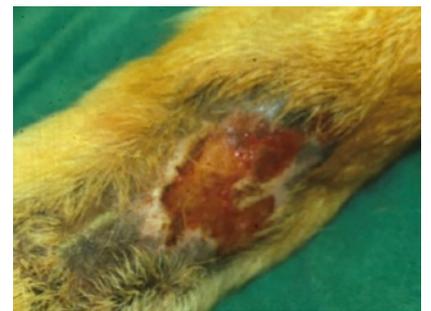


Figure 3. A chronic lesion of acral lick dermatitis in a crossbreed dog. There is ulceration, hyperpigmentation and fibrosis. The lesion had been in existence for four months.

six months in severe cases (Hnilica, 2011). The predominant pathogen is *Staphylococcus pseudintermedius* with some strains having methicillin resistance (Schumacher and others, 2008). Systemic therapy is continued until the lesion clears and an assessment is then made as to whether licking remains a problem. Some cases will clear up with long-term antimicrobial therapy without relapsing. In those that don't, further investigations will be necessary preferably in association with a behavioural specialist.

- Surgical removal of the lesion is possible with small lesions, but there is a considerable risk of the dog traumatising the wound and making the situation much worse. It is generally not recommended.

Treatment with behaviour-modifying drugs

Preferably, in those cases with identified stress factors, behavioural therapy is the optimal approach. Behaviour-modifying drugs may be of short-term use in conjunction with these cases and if no obvious underlying psychological cause is found may be useful as stand-alone treatment. There are a number of drugs reported to be of benefit (Hnilica, 2011).

- Anxiolytics (phenobarbital, diazepam, hydroxyzine).
- Tricyclic antidepressants (fluoxetine, amitriptyline, imipramine, clomipramine).
- Endorphin blocker (naltrexone).
- Endorphin substitute (hydrocodone).

References and further reading

- Hnilica, K. A. *Small Animal Dermatology: A Color Atlas and Therapeutic Guide*, pp189-191. Elsevier, 2011.
- Miller, W. H., Griffin, C. E. and Campbell, K. L. *Muller & Kirk's Small Animal Dermatology*, pp650-653. Elsevier, 2013.
- Shumaker, A. K. and others (2008) Microbiological and histopathological features of canine acral lick dermatitis. *Veterinary Dermatology* **19** (5): 288-298.
- Yager, J. A. and Wilcock, B. P. *Color Atlas and Text of Surgical Pathology of the Dog and Cat Dermatopathology and Skin Tumours*, volume 1; pp57-58. Wolfe, 1994.
- Figures 1 and 2 courtesy of Professor David Lloyd and Professor Ross Bond and colleagues from the dermatology group of the Royal Veterinary College, London.

DAVID GRANT

continues his series looking at dermatological conditions



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Figure 2. A more advanced lesion in a Labrador with secondary infection.

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