Peer Reviewed

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Canine Acral Lick Dermatitis

Acral lick dermatitis (lick granuloma) is a lesion induced by chronic licking, most often on a dorsal forelimb between the metacarpals and elbow, although other locations have been noted.

Acral lick dermatitis, which is more common in large-breed dogs, is initiated by pruritus, pain, or behavioral factors, although pruritus may be the most common initiating factor. Careful history and examination are essential to evaluate any potential underlying allergic disease. Signs may include recurrent skin and ear infections, recurrent hot spots, or pruritus associated with other areas (eg, feet, face, trunk). However, pruritus can also result from infection (eg, bacterial, fungal).

The disorder, which is typically diagnosed according to clinical appearance and a patient history of licking the lesion, is characterized by hair loss and an ulcer surrounded by thick plaques. Pain associated with trauma, osteoarthritis, fractures, surgical sites, or peripheral neuropathies may also initiate excessive licking.

Because other conditions may appear clinically similar (eg, deep fungal infection, neoplasia),[1] skin biopsy with histopathology is indicated. Diagnostics (eg, digital imaging) may be indicated when there are no signs of pruritus or allergic disease elsewhere.

Although patients may have acral lick dermatitis attributable to a behavioral abnormality, this usually is not the sole cause for the disorder, particularly if the patient has no other behavioral manifestations. However, eventually the licking behavior can become a primary factor.

Secondary problems (ie, bacterial infection, furunculosis [ruptured hair follicles], ruptured apocrine glands) may develop from and can contribute to the patient's pruritus as well as perpetuate the cycle. These factors should be addressed to resolve the problem.

CONTINUES

How I Treat Acral Lick Dermatitis

- ❑ Determine the primary cause
- ❑ Address bacterial infections
- ❑ Administer glucocorticoids concurrently with antibiotics
- ❑ Apply physical restraint
- ❑ Use topical therapy
- ❑ Consider behavior & environment
- ❑ Look for extensive fibrosis

☑ Determine the primary cause

If the cause of pruritus is not addressed, the lesion will typically recur even after resolution

Allergic Disease

- Evaluate signs of allergic disease
  - Flea allergy dermatitis, adverse food reaction, atopic dermatitis
- Depending on signs and history, evaluate need for additional flea control, hypoallergenic diet trial, and allergy medication

Additional Testing

- Perform skin scrapings to rule out demodicosis
- Pursue diagnostic imaging if patient has no signs of pruritus/allergies elsewhere and history suggests painful underlying cause

☑ Address bacterial infections

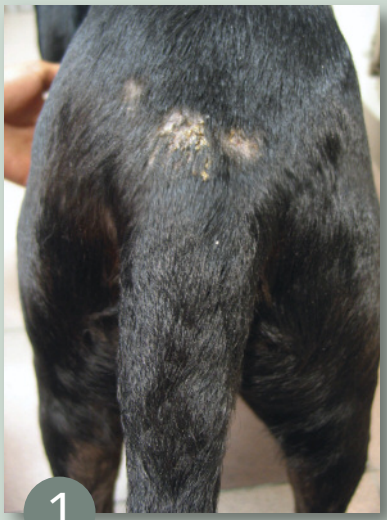
Of dogs with acral lick dermatitis, 94% have deep bacterial infections[2]

Deep Infection

- Particularly in chronic cases with fibrosis, infection tends to be "walled off" and an extensive course of antibiotics is necessary
  - Minimum of 4 weeks of antibiotics is indicated; 6–8 weeks or longer is not unusual
  - Recheck patient after 4 weeks of antibiotic therapy to determine status of clinical signs
  - Administer antibiotics until there is hair regrowth, resolution of acral lick dermatitis, and no evidence of exudation or moist dermatitis

Acral Lick Dermatitis in a Labrador Retriever

A 6-year-old male Labrador retriever presented with chronic acral lick dermatitis and clinical signs of flea allergy dermatitis (**Figures 1, 2,** and **3**). Tissue collected by biopsy for macerated tissue culture revealed methicillin-sensitive *Staphylococcus pseudintermedius* (MSSP). The patient was treated with cephalexin at 28 mg/kg q12h and daily dosing of nitenpyram. The patient was also placed in a BiteNot collar (bitenot.com).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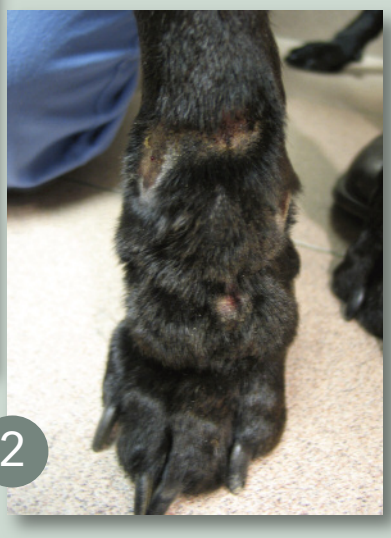
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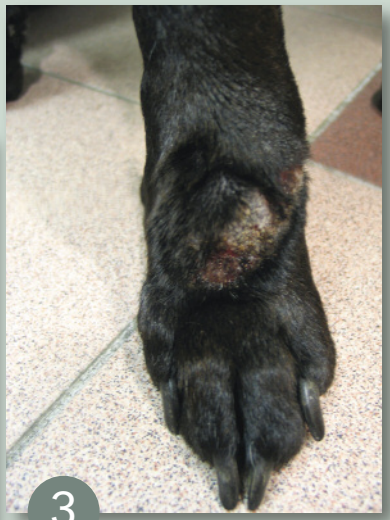
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Culture & Sensitivity Testing

- Purulent material can be obtained by aspiration of acral lick dermatitis sample
  - Alternatively, biopsy lesion and submit sample for macerated tissue culture
- Cultured organisms include *Staphylococcus* (60%), *Pseudomonas* (8%), and *Enterobacter* (8%)
  - Because these organisms are often multidrug resistant and 25% are methicillin resistant, empirical selection of antibiotics is not recommended

☑ Administer glucocorticoids concurrently with antibiotics

Glucocorticoids

- Relieve inflammation and pruritus associated with foreign body reaction to free keratin (because of furunculosis and contents of ruptured apocrine glands)
- Used to treat pruritus associated with underlying allergic disease
- Discontinue after initial itch has been controlled

Antibiotics

- Continue antibiotic administration after discontinuing glucocorticoids (they may mask signs of remaining infection)

☑ Apply physical restraint

- Elizabethan or BiteNot collar with or without bandage covering the lesion
- Once lesion has completely resolved, remove physical restraint for short periods (with supervision)
  - Only remove restraint without supervision after the patient has stopped licking

CONTINUES

At reevaluation 3 weeks later (**Figures 4** and **5**), the pruritus had resolved, along with clinical signs of flea allergy dermatitis. Cephalexin therapy was continued an additional 7 weeks, and flea control involved topical application of imidacloprid. The BiteNot collar was removed.

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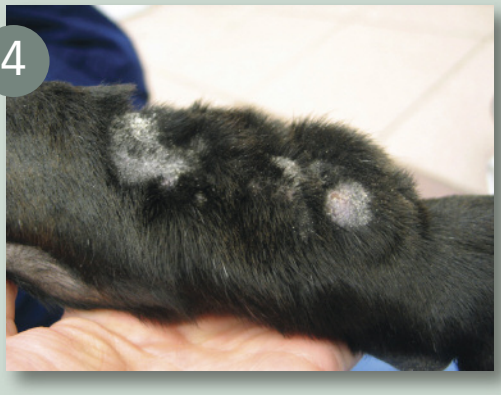

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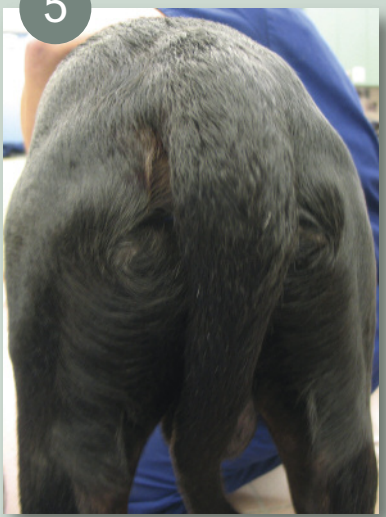

Evaluation at week 10 (**Figure 6**) revealed significant improvement in the acral lick lesion. Because the owner reported no further licking of the lesion, antibiotic therapy was discontinued and imidacloprid application reduced to q14days.

The patient was successfully managed long-term, although when a minor relapse occurred 18 months later, the owner admitted to being inconsistent with application of imidacloprid.

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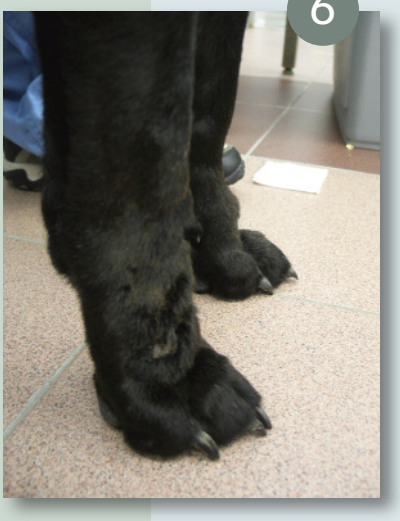

☑ Use topical therapy

Application

- Apply 2–3 times q24h in conjunction with systemic antibacterial and anti-inflammatory therapy
- Owner observation is useful to ensure that topical applications do not cause increased rubbing or licking of lesion

Options

- Mupirocin (antibacterial) can be used alone or followed by application of dimethyl sulfoxide (DMSO) to increase penetration
  - Useful if *Staphylococcus* species was cultured
- DMSO (antiinflammatory)
- Synotic (DMSO and corticosteroid)
- Bitter Apple spray (taste may discourage licking; bitterapple.com)

☑ Consider behavior & environment

Antianxiety & Behavior-Modifying Drugs

- Use in conjunction with medical treatment if anxiety or behavioral abnormalities are potential or known components
  - Clomipramine (tricyclic antidepressant) at 1–2 mg/kg PO q12h
  - Fluoxetine (selective serotonin reuptake inhibitor) at 1 mg/kg PO q24h

Additional Considerations

- Address environmental factors (ie, excessive confinement, lack of exercise)
- Consider Thundershirts (thundershirt.com) for anxiety relief

☑ Look for extensive fibrosis

Causes

- Patients with long-standing acral lick dermatitis may have extensive fibrosis surrounding areas of furunculosis
- Chronic foreign body reaction and walled-off infection may make resolution difficult

Treatment

- CO_2 laser ablation of the lesion may be useful
- Keep patient in Elizabethan or BiteNot collar
- Change bandage daily until surgical site has healed

See **Aids & Resources**, back page, for references & suggested reading.

Coming Soon…

Look for **Acral Lick Dermatitis in Dogs** by Dr. Lore I. Haug in an upcoming issue for a behaviorist's approach to this disease.

KEY FACT

Continue to address the initiating factor after the lesion has healed, including aggressive flea control, hypoallergenic diet, management of atopic dermatitis, pain control, or behavior modification.