Peer Reviewed

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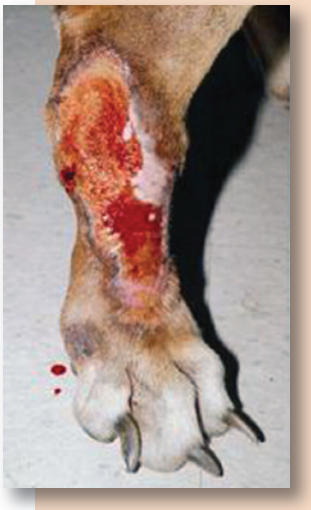
Acral Lick Dermatitis: Behavioral Solutions



In the June 2012 issue, Dr. Karin Beale addressed acral lick dermatitis (ie, lick granulomas) from a dermatologist's perspective. This article presents a behaviorist's view of the same affliction.

Canine acral lick dermatitis (ALD) is a relatively common condition in which excessive licking can lead to raised, firm, alopecic, eroded to ulcerated lesions that are generally on the dorsal aspect of a forelimb as well as metatarsal/tarsal areas. ALD is multifactorial but can often be caused by an underlying medical component. If ALD persists after medical causes have been controlled or eliminated, it can be considered a stereotypic behavior.

ALD in dogs has served as a model for compulsive disorder in humans.[1] Neuroimaging and pharmacologic studies have demonstrated evidence of dysfunction in the prefrontal–basal ganglia–thalamic circuits and the serotonergic neurotransmitter systems in both human and veterinary obsessive-compulsive patients.[2] Regardless of origin, ALD can be difficult and frustrating to treat.

Prognosis for controlling or resolving ALD is highly variable, as chronic severe lesions are often difficult to resolve. Relapse may be common, particularly if medication is withdrawn and/or environmental stressors are not adequately addressed. If owners are attentive to enrichment and behavior modification, affected dogs can often be cured.

CONTINUES

How I Treat Acral Lick Dermatitis

- ❑ Assess patient health status
- ❑ Assess patient behavioral history
- ❑ Institute management to prevent further injury
- ❑ Initiate treatment of local lesion
- ❑ Implement environmental changes
- ❑ Institute behavior modification for environmental & social stressors
- ❑ Initiate psychopharmacologic treatment
- ❑ Monitor treatment response

ALD = acral lick dermatitis

Assess patient health status

Physical Examination

- Complete physical examination to identify ancillary health issues that may exacerbate or complicate ALD treatment
- Determine extent, location, and severity of the ALD lesion; lesions in certain locations can help define the underlying cause (eg, arthritis, abdominal pain, trauma)

Diagnostics & Imaging

- Perform minimum database in anticipation of psychopharmacologic use
- Perform ancillary diagnostics
  - As appropriate for patient's age, breed, and health status
    - Rule out medical disorders (including any that might complicate wound healing)
    - Rule out endocrine disorders (eg, hypothyroidism, hyperadrenocorticism)
  - As necessary, including skin scraping, fungal culture, biopsy, culture and sensitivity testing, radiography
- Assess underlying osseous change ± radiographs

Assess patient behavioral history

- In a behavioral diagnosis, ALD is often attributed to boredom
  - However, assessment inadequately describes degree of behavioral pathology generally necessary for self-mutilation
  - Compulsive behavior is customarily attributed to environmental stress, conflict, or chronic environmental deprivation (eg, confinement)[3]
- Frequency, time of occurrence, and duration can influence treatment

Information About Dog's Routine

- Diet and frequency of feeding
- Time spent indoors vs outdoors
- Type and extent of physical, aerobic exercise (including off-property excursions)
- Other animals in the home and their relationship with the patient
- Location where the patient sleeps and spends time when left alone
- Toys or activities available and whether they are used

Information About Dog's Behavior

- Consider additional owner complaints about the dog's behavior before delineating the treatment program (**Figure 1**)
  - Aggression (eg, toward people, animals)
  - Anxiety (eg, separation, noise, general)

Institute management to prevent further injury

- Facilitate healing with immediate control of excessive licking
- Apply local bandages ± concurrent application of bitter substances
- Apply restraint collar
  - Behavioral profile can influence the nature and type of restraint device

ALD = acral lick dermatitis

Before deciding the best treatment protocol, practitioners need to consider all information related to the individual dog's routine and behavior, including owner complaints such as (**A**) aggression toward people or (**B**) extreme anxiety behavior displayed as a result of noise/storm phobia.

- Fearful, anxious dogs may do poorly with large (especially opaque) Elizabethan collars

Initiate treatment of local lesion

- Administer appropriate long-term systemic antibiotics based on deep culture and sensitivity testing, especially if considerable granulation tissue is present
- Administer topical products to reduce inflammation and irritation
- Consider laser therapy
- Consider allergy potential

Implement environmental changes

- Note that environmental deprivation and minimal opportunities for species-appropriate behaviors often contribute to compulsive or repetitive behaviors
- Encourage physical, aerobic exercise appropriate to age, breed, and health status
  - Recommend excursions unless the dog's behavior (eg, uncontrollable aggression in public) prevents it
  - Initiate use of food-dispensing toys and activities (**Figure 2**)
- Develop opportunities for breed-specific behavior (eg, digging pits for terriers, herding activities for herding breeds, lure coursing for sight hounds)
- Encourage canine sports (eg, rally, agility, tracking)
- Encourage sufficient and quality socialization with humans
- Encourage moving outdoor dogs indoors or providing more opportunities for them to socialize with family members

Institute behavior modification for environmental & social stressors

- Keep the dog isolated from situations that incite anxious and/or aggressive behavior to prevent rehearsal of negative behavior patterns
- Consistently reinforce relaxed behavior with attention, praise, small food treats, or favored activities (eg, fetch, walks)
- Recommend dog–owner interactions in which the owner only interacts with the dog when it is calm (ie, reinforcing the behavior)
- Train basic obedience cues using positive reinforcement to enrich and facilitate relaxation
- Reinforce alternative desirable behaviors (bone chewing, play, resting, playing with other animals) to reduce time spent licking excessively
- Begin contextual relaxation conditioning
  - Reinforce behaviors for relaxation in the presence of controllable cues (eg, special training mat; **Figure 3**)
  - Calm behaviors include sighing, moderate blinking, lateral recumbency, resting with head on the ground, observable reductions in skeletal muscle tension
- Relaxation training is used to countercondition the dog to environmental stressors (eg, other animals, visitors, storms/noises, gradual owner departures)[4]

CONTINUES

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Proactive environmental modification includes designated areas for appropriate play activities, along with food-dispensing devices and other toys.

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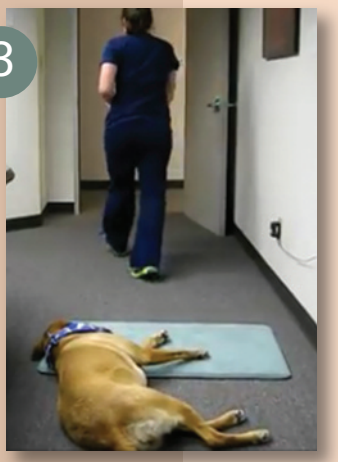

Contextual relaxation conditioning involves behavior reinforcement based on controllable cues. Special training mats, such as the one shown here, help reinforce alternative desirable behaviors.

If owners are attentive to enrichment and behavior modification, affected dogs can potentially be cured.

- Positive punishment using electronic shock may be successful in some cases[5]; however, this approach is controversial

Initiate psychopharmacologic treatment

- Start treatment; reevaluate after 4 weeks
  - Titrate if little or no response
- Administer anticompulsive medications with serotonergic modulation[1,6,7]
  - Clomipramine at 2–3 mg/kg q12h
  - Fluoxetine at 1–2 mg/kg q6h
  - Sertraline at 1–3 mg/kg q6–12h
- Opioid antagonists (naltrexone, nalmefene) have proven useful in some ALD cases[8]
- Continue medication for >3 months past resolution of lesion(s) and behavioral signs
- Wean medications slowly; longer treatments require slower weaning to prevent relapse

Monitor treatment response

- Track response to medications closely and frequently, especially within 6–8 weeks after initiation
  - Adverse reactions to serotonergic agents generally arise within the first 6 weeks
    - Sedation, appetite suppression
    - Agitation, restlessness
    - Increased fearfulness, noise hypersensitivity
- Journal (eg, written, verbal) behavior issues to allow objective assessment of treatment response
- Catalog size of dermatologic lesions on weekly or monthly basis

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

Take-Home Points

- Immediate control of excessive licking is necessary to facilitate healing
- Before planning treatment, consider additional concerns (eg, aggression, anxiety)
- Human socialization, breed-specific activities, and obedience training can be beneficial

REFERENCES
1. Pietschmann S. et al. (2009) Synergistic effects of miconazole and polymyxin B on microbial pathogens. Veterinary Research Communications 33(6),489-505
2. Bolinder A. et al. (2006) In vivo efficacy study of the anti-inflammatory properties of Surolan The Canadian Journal of Veterinary Research 70, 234-236