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Case Report

Acral Lick Dermatitis (Lick Granuloma) in an Adult Male Labrador Retriever Dog

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ABSTRACT

Introduction: Acral lick dermatitis is a skin injury commonly noticed in dogs with obsessive licking behavior. The lesions are usually noticed on the distal extremities which become raised, thickened, and plaque-like.
Case report: A five-year-old male Labrador retriever dog was presented to the Small Animal Medicine Unit of Veterinary Clinical Complex (VCC), Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Puducherry, India, with a history of a superficial wound on the metatarsal region of the right hind limb with bleeding and continuous licking since a month. Clinical examination of the lesion showed a nodular eczematous lesion of 2 cm thickness, while other vital parameters were normal. Based on the licking behavior and other investigations, the skin lesions were diagnosed as acral lick dermatitis. Treatment included the application of Ointment Triamcinolone acetonide (topically) for a month. The licking was controlled using E-collar, and the dog was engaged in playful activities to overcome boredom. The lesion regressed completely within a month and hence was treated uneventfully.
Conclusion: Diagnosis and identifying the root cause of the skin disorder can determine the course of treatment. Topical application of corticosteroids (triamcinolone acetonide) and methods, such as E-collar, to control the licking behavior, helped the animal's recovery.

1. Introduction

Acral lick dermatitis (ALD), also called lick granuloma, is a common, self-inflicted skin disorder with a focal lesion usually found occurring on the distal (acral) extremities of the limbs[1]. The common site for excessive compulsive licking is usually on the anterior carpal or metatarsal skin. Male dogs of larger breeds are commonly affected. Initially, the lesion appears small and gradually increases in size with expanded licking. Later, alopecia develops, and the lesions become firm, raised, thickened, and plaque leading to nodular ulceration, fibrosis, and hyperpigmentation[2]. Continuous licking also leads to secondary infections like deep pyoderma and furunculosis. The etiology is usually multifactorial[3] with an underlying psychological factor. The possible reasons are loneliness, confinement for a long period, a female dog in heat nearby, a death in the family, and the moved apart of children or members of the family. Other causes include tumors, infection, trauma, and orthopedic problems[2]. Histopathological findings are supportive in confirming the diagnosis, including epidermal hyperplasia with marked rete ridge formation, and compact orthokeratosis hyperkeratosis, which strongly suggests chronic surface irritation and fibrosis of the dermal papillae[4]. Treatment includes behavior-modifying drugs, such as anxiolytics (alprazolam, diazepam, and lorazepam), tricyclic antidepressants (fluoxetine, amitriptyline, imipramine, and clomipramine), endorphin blocker (Naltrexone) and endorphin substitute (hydrocodone) medications, and acupuncture therapy[5]. This article described a case of Acral Lick Dermatitis (ALD) and its successful management.

2. Case report

A five-year-old male Labrador retriever dog was referred to Small Animal Medicine Unit, Veterinary Clinical Complex, Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry, India, with a history of a wound

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Figure 1. Acral lick dermatitis in a Five-year-old male Labrador Retriever, India (Firm, raised, erythematous lesion on the right metatarsal region, 2 cm thickness)

on the metatarsal region with bleeding which started as a crust-like lesion and then increased gradually on continuous licking. The lesion was painful on touch and hence reduced its exercise time. On clinical examination, the dog was active, popliteal lymph nodes were palpable, mucous membrane was pink, and the rectal temperature was 101.7°F (38.7°C). The lesion on the metatarsal region of the right hind limb was firm, raised, nodular, and erythematous (Figure 1). Other skin diseases caused by parasites (such as *Demodex*, *Sarcoptes*) and fungal organisms were ruled out by skin scraping examinations (deep skin scraping, direct microscopic examination). An impression smear was taken, and gram staining was done. There was no evidence of gram-negative and gram-positive bacterial organisms. The dog did not show any signs of orthopedic problems. Based on the history, clinical signs and other dermatological examinations, the skin lesion was diagnosed for acral lick dermatitis.

The case was diagnosed as ALD without any secondary infections and was treated with topical glucocorticoid ointment of Triamcinolone acetonide 0.1 % (TRIAMADERM™, Nulife Pharmaceuticals, India), and bandaging was done on the lesion to prevent further trauma. Besides, the owner had been advised to apply Elizabethan collar (E-collar) constantly and increase the play time and exercise with the dog to overcome the obsessive-compulsive disorder. After 15 days of application of the ointment and wearing E -collar, the erythema and swelling reduced (Figure 2). After 6 weeks, the animals showed complete healing, and hair growth was also noticed (Figure 3).

Figure 2. Acral lick dermatitis in a Five-year-old male Labrador Retriever, India (day 15 post-treatment changes, Reduction in Nodular size of erythema)

Figure 3. Acral lick dermatitis in a Five-year-old male Labrador Retriever, India (day 42 post-treatment changes, complete regression of nodule and hair growth noticed)

3. Discussion

Acral lick dermatitis is an obsessive-compulsive behavior in dogs due to boredom. It is a skin lesion characterized by continuous licking resulting in raised, thickened, ulcerative plaques mostly affecting the lower extremities of dogs[3]. Middle-aged to older breeds like the Doberman, Great Dane, Golden retriever, Labrador retriever, German shepherd, and Boxers are usually involeved[4]. Dogs are impelled by their condition to lick a region until they cause hair loss and erosion of superficial skin layers. The outcome triggers an itching sensation, leading to more licking. This itch-lick cycle is exacerbated by the way that damaged cells result in releasing endorphins, or brain chemicals, that are powerful analgesics[6]. Diagnosis is usually by the history and typical appearance of a wound in the foot region. In this present case, Triamaderm™ (Triamcinolone acetonide, Nulife Pharmaceuticals, India) reduced the erythema, nodular size, and swelling and showed complete healing in 6 weeks. Triamcinolone is a highly potent synthetic glucocorticoid with a half-life of 12-36 hours and a powerful steroid used to treat swelling and itchiness. Triamcinolone is a highly effective anti-inflammatory agent for dogs and cats, exhibiting fewer sodium-retaining effects while providing better anti-inflammatory effects compared to other corticosteroids[7].

4. Conclusion

Acral lick dermatitis is usually diagnosed based on the history, clinical signs, and behavior of the dogs. Most dogs require treatment for inflammation, infection, and psychological components. Topical and oral medications like corticosteroids are generally used for inflammation. In case of secondary skin infection, antibiotics are used. Behavior-modifying drugs can be used to overcome obsessive-compulsive behaviors. Management practices like increasing the playtime with the dogs and exercise have been shown to increase recovery.

Declarations

Competing interest

The authors declared that they have no conflict of

interest.

Authors' contribution

Abiramy Prabavathy Arumugam diagnosed the case. Devadharshini Kamalakannan, Vanmathi Arulselvam, and Devadevi Narayanan conducted the treatment. Vijayalakshmi Padmanadan supervised the whole procedure. All authors read and approved the final version of the manuscript for publication in the present journal.

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Ethical considerations

The authors confirm that all the named authors have read and approved the manuscript. All authors consented to publish this article and confirm that there is no plagiarized information in the article. All sentences are written originally, and all available data are published in this article.

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