

CLINICAL KNOWLEDGE INSIGHTS

IMMUNE-MEDIATED DERMATOSES

LUPUS ERYTHEMATOSUS

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AT A GLANCE

- Lupus erythematosus is a group of immune-mediated diseases that may primarily affect the skin or have serious systemic effects.
- Systemic lupus erythematosus affects multiple organ systems and uncommonly the skin
- The most common variant is discoid (cutaneous) lupus erythematosus (DLE)
- Multiple factors are likely involved in the etiopathogenesis of DLE although they are currently poorly understood:
 - Genetics and environment
 - T and B lymphocyte dysregulation
 - Autoantibodies

- UV light and sun exposure are known to exacerbate DLE and may have a role in induction of disease

OTHER SKIN VARIANTS SEEN IN DOGS INCLUDE:

VESICULAR CUTANEOUS LUPUS ERYTHEMATOSUS (VCLE)

- An ulcerative disease of Shetland Sheepdogs
- Characterized by serpiginous areas of ulceration on the ventral abdomen, groin and medial thighs; mucocutaneous junctions and concave surface of pinnae may also be affected

EXFOLIATIVE CUTANEOUS LUPUS (ECL)

- A scaling alopecic disease of German Short-haired Pointers
- Affected animals often have lymphadenopathy, intermittent pyrexia and a stiff gait with reluctance to move

WHAT DOES IT LOOK LIKE?

- Predisposed breeds include the German Shepherd Dog, other shepherd breeds and Collie dogs, although the disease has been observed in a variety of pure and mixed breed dogs
- Young adults to middle-aged dogs are usually affected, especially those with a high degree of exposure to UV radiation

LESIONS OF DISCOID LUPUS ERYTHEMATOSUS (DLE)

- Lesions of discoid lupus erythematosus (DLE) are very characteristic (*Pathologic Image Library - Figure 1*)
- The nasal planum (non-haired area) is always affected, usually starting on the dorsum but also involving the philtrum and the medial and lateral alar folds
- Initial lesion is loss of pigmentation leading to a gray/blue color which becomes pink when all pigment is lost (*Pathologic Image Library - Figure 2*)
- As depigmentation progresses, there is a loss of the normal architecture of the nose i.e. the normal cobblestone appearance becomes smooth (*Pathologic Image Library - Figure 3*)
- Scaling and crusting occur
- When crusts are removed, erosions and eventually ulcers are evident (*Pathologic Image Library - Figure 4*)
- The nasal planum is usually friable and bleeding may occur with even mild trauma
- Rarely, lesions may also develop on the lips, pinnae, periocular and perianal skin, prepuce or on the footpads (hyperkeratosis)

PATHOLOGIC IMAGE LIBRARY : LUPUS ERYTHEMATOSUS



Figure 1. 5 y.o. German Shepherd Dog with discoid lupus erythematosus (DLE).



Figure 2. Close up of nose in Fig. 1. Note the partial (gray areas) to complete (pink areas) depigmentation and the loss of the typical cobblestone architecture of the nose.



Figure 3. DLE with widespread depigmentation and loss of cobblestone architecture affecting entire nasal planum.



Figure 4. 3 y.o. Collie dog with severe DLE of the dorsal aspect of the nasal planum. Coalescing erosive to ulcerative lesions, covered with adherent crust on the dorsum.

All Photos: Case Material from the Dermatology and Otolaryngology Service, The Ohio State University

WHAT ELSE LOOKS LIKE IT?

- Nasal pyoderma
- Dermatophytosis
- Pemphigus foliaceus
- Pemphigus erythematosus
- Dermatomyositis
- Uveodermatologic syndrome
- Contact dermatitis
- Mucocutaneous pyoderma - involve the haired skin of the bridge of the nose, at least initially, in contrast to DLE that commences on the non-haired nasal planum

HOW DO I DIAGNOSE IT?

- Rule out differential diagnoses
- Breed predisposition
- Characteristic location and appearance of lesions on the nasal planum

HISTOPATHOLOGY

- Try and collect samples from non-ulcerated areas
- General anesthesia is necessary to sample the nose
- Lichenoid or hydropic interface dermatitis - May also include possible apoptosis of keratinocytes and thickening of the basal membrane

DIAGNOSTIC TECHNIQUES VIDEOS: [ExcellenceInDermatology.com](#) → [Education Library](#) → [Videos](#)

DIAGNOSTIC TECHNIQUES SECTIONS: [ExcellenceInDermatology.com](#) → [Diagnostic Techniques](#)

HOW DO I MANAGE IT?

- Do no harm!
- Avoid further exposure to UV or sunlight- Apply topical water-resistant sunscreens as frequently as possible to outdoor dogs
- Topical corticosteroids applied q 12 hrs. Start with more potent corticosteroids (e.g. betamethasone or dexamethasone) until remission is achieved, then convert to less potent corticosteroids for long-term control (e.g. hydrocortisone or prednisolone)

- Topical tacrolimus applied q 12 hrs may also be considered
- TIP: applying topical medications immediately prior to feeding or playing with the dog may help distract the patient from licking the medication off before it has a chance to be absorbed
- In poorly responsive patients or where topical therapy is not tolerated:
 - Oral doxycycline (5-10 mg/kg q 12 hrs) and niacinamide (dogs < 10 kg 250 mg q 8 hrs; dogs > 10 kg 500 mg q 8 hrs)
 - A few cases show further improvement when pentoxifylline (15-20 mg/kg q 8 hrs) is given in addition to doxycycline and niacinamide
- Rarely is systemic immunosuppressive therapy necessary (see corticosteroids for systemic treatment of Pemphigus foliaceus) as the disease is limited to the nose and the prognosis is good
- A recent report of the success of the human antimalarial immunomodulator hydroxychloroquine orally at 5 mg/kg q 24 hrs
- Maintenance lifelong therapy is usually indicated

COMMENTS

- DLE is a common disease in certain breeds, especially if sun exposure is high
- The appearance and location of lesions is characteristic
- Topical therapy is usually successful in controlling the lesions

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