Discoid Lupus Erythematous in Dogs

Dr Robert Hilton
BVSc(Hons) MACVSc (Canine Medicine) Cert.VD MRCVS

Mobile 0433853560

Website www.skinvet.org

Email rob@skinvet.org
The most common immune mediated skin disease in Australia

There are gross differences in how the canine and human “discoid” lupus appears; hence, cutaneous lupus erythematosus (CLE) is a more appropriate name for the canine condition.

Collies and Shelties predisposed but may occur in a variety of breeds.

Severely exacerbated by UV radiation

Target = basement membrane area. Target antigens unclear.
Nasal planum is common target but may involve other mucocutaneous junctions, pinnae, scrotum and other sites.

Inflammatory depigmentation, erosions and ulceration are typical lesions.

Limited to skin only. ANA –ve

Severe cases are complicated by infections and occasionally severe bleeding.
Cutaneous (Discoid) Lupus
Cutaneous (Discoid) Lupus
Cutaneous (Discoid) Lupus
Cutaneous "discoid" lupus.

Alternative sites
Differential diagnosis

**Mucocutaneous pyoderma** (major differential)
Other immune-mediated diseases (pemphigus, SLE, dermatomyositis, vasculitis and the uveo-dermatologic syndrome).
Nasal dermatophytosis
Solar or physical dermatitis
Neoplasia
CAUTION

Diagnosis is by histopathology
Do not submit samples less than 4mm in diameter

Histopathology is NOT RELIABLE in differentiating DLE from muco-cutaneous pyoderma. Prior to biopsy, assess response to 3 weeks of antibiotics. If complete cure, Dx = MCP
Mucocutaneous pyoderma pre and post antibiotics
Cutaneous (Discoid) Lupus

Areas showing depigmentation and erythema should be selected for biopsy, rather than areas of ulceration and/or crusts.
Balance the severity of cutaneous lupus against the risks of therapy.

Use the least toxic drugs and control sunlight exposure. 90% resolution is target!
**Treatment Overview**

Sun Avoidance essential. Control without this almost impossible.

Short term immunosuppressive doses of prednisolone to induce remission. Long term immunosuppression, as per pemphigus foliaceus, is the last resort.

Topical Corticosteroids: **skin thinning**, calcinosis cutis and infections. Short term use OK. Long term 1-2x week but watch for skin thinning.

Tetracyclines and niacinamide
Topical Tacrolimus
Hydroxychloroquine (Plaquinil)
Cyclosporine (severe refractory cases)

Ancillary therapy
- Vitamin E
- Omega 3/6 oils
- Antibiotics for secondary infection
Topical Tacrolimus

Similar action but different binding site to cyclosporine

Pimecrolimus: No studies and dubious absorption

10 cases, 0.1% tacrolimus once a day, 80% responded. 75% of responding cases could be maintained on topical tacrolimus alone. Compounded tacrolimus is the only form available in Australia and the author has NOT enjoyed success using it as monotherapy.

Unregistered and wear gloves
Tetracycline and Niacinamide (nicotinamide, nicotinic acid)

Multiple anti-inflammatory properties. Neither effective alone in dogs. Widely used.

70% success rate in maintaining. Assess after 10 weeks of use.

Dogs >10kg BW 500mg of each TID. Smaller dogs 250mg of each TID

Doxycycline (7.5-10mg/kg SID) may be substituted for tetracycline. Not cheap.

With three times a day medication, compliance is an issue. The author has had good results with doxycycline 1x day and 350-750 mg of niacinamide 2x day
### Other immunosuppressants

<table>
<thead>
<tr>
<th>Oral Cyclosporine</th>
<th>Hydroxychloroquine (Plaquinil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many anecdotal reports that effective at atopic dermatitis protocol</td>
<td>Antimalarial with immuno-modulating properties</td>
</tr>
<tr>
<td>For refractory cases</td>
<td>Good safety profile in dogs</td>
</tr>
<tr>
<td></td>
<td>5mg/kg once a day dose and cheap. Assess after 10 weeks.</td>
</tr>
<tr>
<td></td>
<td>This is the “go to” drug for human DLE. The author has had success in a limited number of cases.</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>Omega 3/6 fatty acids</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td><strong>Mild anti-inflammatory effects</strong></td>
<td><strong>Mild anti-inflammatory effects</strong></td>
</tr>
<tr>
<td><strong>500-1000 IU /day</strong></td>
<td><strong>No optimum dose rate or omega 3/6 ratio determined for immune mediated disease</strong></td>
</tr>
<tr>
<td><strong>No benefit from megadoses</strong></td>
<td><strong>Indicative dose = 1ml of cold water marine fish oil/3kg.</strong></td>
</tr>
<tr>
<td>• May take 2 months for effects</td>
<td>• May take 2 months for effects</td>
</tr>
</tbody>
</table>
A sample treatment plan

- Confirm diagnosis
- Aim for 90% symptom control. Pigment may never return.
- Keep out of sun. Non zinc sunscreens high SPF not a substitute.
- Treat secondary infection
- 4-6 weeks reducing course of corticosteroids (topical and parental to induce remission. Topical steroids no more than 1-2x week long term. Watch skin thinning.
- Same time, start Doxycycline/niacinamide or hydroxychloroquinine. Vit E and omega-3 oil may help.
- Re-assess in 10 weeks. If not good response, change systemic meds over and/or add in topical tacrolimus
- If refractory, cyclosporine