Proceedings of the 34th World Small Animal Veterinary Congress
WSAVA 2009

São Paulo, Brazil - 2009

Next WSAVA Congress:

Reprinted in IVIS with the permission of the Congress Organizers
DERMATOZOOONOSIS – A CONSTANT RISK
Carlos Eduardo Larsson (DVM, MSc, PhD) – Full Professor of the Faculdade de Medicina Veterinária e Zootecnia da Universidade de São Paulo. Dermatology Service
Av. Prof. Dr. Orlando Marques de Paiva, 87 - São Paulo - 05508-270
larsderm@usp.br

In the routine of a veterinary clinic, whichever region to be considered, dermatopathies constitute 30 to 40% of all cases attended. Included among them, in tropical or subtropical climates, are the intra or interspecies-transmitted dermatoses. This transmissibility is of major concern for owners, as this could possibly in the infection of exposed humans or of other animals in the household. Many of those potentially zoonotic diseases should be considered stigmatic. Furthermore, they frequently infect veterinary professionals, their assistants, pet store groomers etc. They are considered, hence, to be occupational diseases, generically denominated professional dermatoses (ergodermatoses).

Among the dermatozonoses of (zooanthroponotic, anthropozoonotic) that primarily affect the integumentary system, are those of viral (poxviruses), fungal (dermatophytosis, sporotrichosis), parasitical (scabies, leishmaniosis, larva migrans, pulicosis), bacterial (Staphylococcal infections) and traumatical (bite and scratch marks) etiologies.

This lecture will discuss those most frequently found in veterinary clinics and hospitals throughout Central and South America – namely, sporotrichosis, dermatophytosis and scabies.

Dermatozoonosis of fungal etiology

SPOROTRICHOSIS
Also known as: rose-thorn disease or rose-gardeners' disease, “maladie de vacance”, miners/stonemason/seed’s men diseases
Agent: Sporothrix schenckii (Schenck, 1898)
Incidence: urban, worldwide, epizootic and epidemic (20th and 21st centuries) in Rio de Janeiro (Brazil) and in South Africa (gold mines) in the 19th century.
Nr. of cases: 759 human, 1,503 feline and 64 canine.
Feline infection sources: 85% of dogs and 83% of cats.
Classification: anthropozoonosis, saprozooonosis, professional dermatosis (ergodermatoses).
Susceptibility: cats, dogs, horses, mules, men e.g.
Skin lesions:
- solid formations (papules, nodules, gumma and verrucous lesions);
- tissue loss/replacement (scales, crusts, erosions and ulcers).
Lesion topography: head and thoracic limbs.
Symptoms: rare in its initial phases. In severe cases: anorexia, weight loss, enlarged lymph nodes e prostration.
Epidemiology of diseased cats in Brazil: male (65%); mean age 24 months (87% < 48 months); domestic or semi-domestic; mean evolution period – 8 weeks (1 – 128 weeks); nr. of affected regions: 2 (25%), > 3 (40%); topography – head (57%), forelimbs (14%), mucosae (35%); extracutaneous symptoms (57%), respiratory symptoms (44%); concurrent retroviral infection: FIV (19.7%), FelV (1,4%); FIV/FelV (0,7%).
Transmission: exposure to the soil, organic debris to rotting vegetables, to cats’ claws (40%) and mouths (42%).
Diagnosis: identification, patient history, examination: physical, dermatological and others “intra vitam” and “post-mortem”) examinations positivity (histopathological – 100%; culture positive – 93.7%).
Differential diagnosis: leishmaniosis, cryptococcosis, mycobacteriosis, pyoderma, neoplasia.
Treatment: itraconazole (oral, 10mg/Kg, SID)

DERMATOPHYTOSIS
Also known as: ringworm, tinea, mycosis, “pelada”, “rabugem”.

**Agents:** Microsporum canis, M. gypseum, T. mentagrophytes

**Incidence:** in Brazil, feline (16 - 29% of all feline dermatopathies), canine and feline (6.4 – 13.4% of all dermatoses).

**Classification:** anthropozoonosis, saprozoonosis, anthroponosis, professional dermatosis (ergodermatoses).

**Susceptibility:** cats (healthy - carrier), dogs, horses, oxen, rodents and men.

**Skin lesions:**
- solid formations (papules, nodules)
- thickness variations (keratosis, lichenification)
- tissue loss/replacement (scales, crusts, erosions)
- color changes (erythema, hyperpigmentation, melanism)

**Lesion morphology:** annular, nummular, target, polycyclic, serpiginous.

**Lesion topography:** head, limbs, trunk.

**Symptoms:** rare, pruritus (geophilic).

**Epidemiology of the diseased**

“If looks like ringworm, it is probably not!
It is probably staphylococcal folliculitis”
Scott et al., 2001

<table>
<thead>
<tr>
<th></th>
<th>Dogs (%) n=40</th>
<th>Cats (n%) n=36</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47.5</td>
<td>54.0</td>
</tr>
<tr>
<td>Long hair coat</td>
<td>52.5</td>
<td>46.0</td>
</tr>
<tr>
<td><strong>Breed definition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purebreed</td>
<td>75.0</td>
<td>44.5</td>
</tr>
<tr>
<td>(Yorkshire: 23%)</td>
<td>(Persian: 94%)</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>23.0</td>
<td>20.5</td>
</tr>
<tr>
<td>≤ 12m</td>
<td>65.0</td>
<td>66.5</td>
</tr>
<tr>
<td><strong>Symptom</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Itching</td>
<td>50.0</td>
<td>11.0</td>
</tr>
</tbody>
</table>


**Transmission:** direct / indirect.

**Interspecies:** 21.5% of exposed owners in Brazil.

**Diagnosis:** identification, patient history, physical, dermatological and others examinations.

<table>
<thead>
<tr>
<th>Method</th>
<th>Incidence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mycological</strong></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>87.5</td>
</tr>
<tr>
<td>Grown</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Wood´s Lamp</strong></td>
<td>35.0 – 83.0</td>
</tr>
<tr>
<td><strong>Histopathological</strong></td>
<td>28.5</td>
</tr>
</tbody>
</table>

**Differential diagnosis:** mange (demodicosis), dyskeratinization, scabies, trichotillomania, superficial pyoderma, miliary dermatitis.

**Treatment:**
- griseofulvin (P.O., 50 mg/kg SID, 6 - 8 weeks)
- itraconazole (P.O., 10 mg/kg SID, 4 - 6 weeks)
terbinafine (P.O., 10 – 15 mg/kg SID, 4 weeks)  
ketoconazole 2% (topical) 
ketoconazole and chlorhexidine 2% (topical)  
chlorhexidine 3%(topical)  
benzoyl peroxide 2,5 - 3% (topical)  
selenium sulfide 2,5%(topical)  
iodine / iodophor(topical)

DERMATOZOOOSIS OF PARASITICAL ETIOLOGY

CANINE AND FELINE SCABIES  
Also known as: sarcoptic mange, Red Mange.  
Agent: *Sarcoptes scabiei, Notoedres cati*  
Incidence: Brazil  
Canine – 32% of all parasitical dermatitis  
Feline – 14 - 38% of all parasitical dermatitis  
6% of feline dermatitis  
Classification: anthrozoonosis, professional dermatosis (ergodermatoses).  
Susceptibility: dog, cat and men.  
Skin lesions:  
- solid formations (papules, nodules)  
- thickness alterations (keratosis, lichenification)  
- tissue loss/replacement (scales, crusts, erosions)  
- color changes (erythema, hyperpigmentation)  
Lesion Morphology: varied  
Lesion Topography: head, neck, limbs  
Symptoms: *itching, itching and ... itching* ("pruritus ferox"), emaciation, weight loss, enlarged lymph nodes.  
Epidemiology of the diseased: Brazil (HOVET/USP 1984 – 2005)  
Case reports: 44,561 cases (dogs – 40,393, cats – 4,168)  
3,088 (6.9%) "scabies patients" (12.3 cases/month)  
Canine scabies: 6.1%  
Feline scabies: 15.3%

<table>
<thead>
<tr>
<th>Gender</th>
<th>Dogs (%)</th>
<th>Cats (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>53.0</td>
<td>58.7</td>
</tr>
<tr>
<td>Hair coat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>long</td>
<td>73.0</td>
<td>20.0</td>
</tr>
<tr>
<td>short</td>
<td>27.0</td>
<td>80.0</td>
</tr>
<tr>
<td>Breed definition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>purebreed</td>
<td>58.3</td>
<td>22.3</td>
</tr>
<tr>
<td>(Cocker</td>
<td>39.0;</td>
<td>(Siamese</td>
</tr>
<tr>
<td>Poodle</td>
<td>36.0)</td>
<td>Persian</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 12 months</td>
<td>88.0</td>
<td>65.0</td>
</tr>
<tr>
<td>Evolution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 3 months</td>
<td>77.0</td>
<td>80.5</td>
</tr>
<tr>
<td>Seasonality</td>
<td>&quot;nihil&quot;</td>
<td>&quot;nihil&quot;</td>
</tr>
</tbody>
</table>

CASTRO, R.C.C.& LARSSON, C.E. Escabiose em cães e gatos.  
HOVET/USP. MSc Thesis FMVZ/USP (2005)

Transmission: direct / indirect.  
Interspecies: 28.3% of exposed owners in Brazil.
Diagnosis: identification, patient history, dermatological examination and laboratory procedures, owners symptom and lesions.

<table>
<thead>
<tr>
<th>Method</th>
<th>Incidence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog</td>
<td>Cat</td>
</tr>
<tr>
<td>Skin scraping</td>
<td>73.0</td>
</tr>
<tr>
<td>Histopathological</td>
<td>6.0</td>
</tr>
<tr>
<td>Serology</td>
<td>70.0</td>
</tr>
<tr>
<td>Pinnal-pedal reflex</td>
<td>98.3</td>
</tr>
</tbody>
</table>

Differential diagnosis: dermatophytosis, allergic dermatitis, feline pemphigus foliaceus, dyskeratinization.

Treatment:
- ivermectin (P.O.; 300 mcg/kg SID; 14 – day interval)
- selamectin (topical; 6 mcg/kg SID; 30 – day interval)
- moxidectin 2.5% e imidacloprid 10% (topical; 0.1 mc/Kg SID; 30 – day interval)
- benzyl benzoate 25% (for cats - NEVER!!) – topical
- tetraethylthiuram 25% - topical

Available bibliography at: larsderm@usp.br