Summary of recommendations for general practitioners based on the clinical consensus guidelines.

Diagnosis and treatment of dermatophytosis in dogs and cats.

Clinical Consensus Guidelines of the World Association for Veterinary Dermatology
Moriello KA, Coyner K, Paterson S, Mignon B
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Overview

- True prevalence and breed predispositions for dermatophytosis are unknown. This is a contagious infectious disease. It is not reportable or fatal.
- Subcutaneous dermatophytic infections have been reported most commonly in Persian cats and Yorkshire terrier dogs.
- Working and hunting dogs may increase their risk of exposure to dermatophyte spores and hence, superficial and, less commonly, nodular lesions.
- Seropositive FIV and/or FeLV status in cats alone does not increase the risk of dermatophytosis.

Pathophysiology (cause)

- The infective form of dermatophytes is the arthrospore, which is formed by the fragmentation of fungal hyphae into small infective spores.
- Transmission occurs primarily by direct contact between an infected and uninfected animal, less commonly by fomite transmission, which can include grooming appliances, bedding, collars, and exposure to contaminated environment.
- Microtrauma to the skin is an important factor in the development of clinical infection.

Clinical signs

- There can be any combination of hair loss, papules, scales, crusts, erythema, and follicular plugging; hyperpigmentation and changes in nail growth/ appearance; asymmetrical lesions.
- Pruritus is variable (none to severe).
- Lesions occur most commonly on the face, ears, or muzzle. They can progress to paws and other body areas.
- Hunting dogs may develop lesions on the muzzle and paws.
- Onychogryphosis on one or multiple digits may occur.
- Single or multiple erythematous, alopecic, dome-shaped exudative nodules can occur in dogs or cats. These are called “kerions.”

Diagnostic tests

- No one test was identified as a “gold standard.”
- False positives and false negative test results can occur.
- The Wood´s lamp is a tool, not a test, to help find suspect infected hairs for culture or direct examination. Wood’s lamp tool is likely to be positive in most cases of *M. canis* dermatophytosis. Direct examination can document active hair infection; treatment can be started based on a positive direct examination.
- Dermatophyte culture by toothbrush technique confirms infections, identifies fungal species involved, and can monitor response to therapy.

- Biopsy with special fungal stains for nodular or atypical infections.
- Dermoscopy may be a useful clinical tool with or without concurrent use of a Wood's lamp to identify hairs for culture and/or direct examination.
- PCR detection of dermatophyte DNA can be helpful. A positive PCR does not necessarily indicate active infection.
- Monitoring of response to therapy includes clinical response, use of Wood´s lamp if possible, and fungal culture.
- Negative PCR in a treated cat is compatible with cure. A negative fungal culture from a cat with no lesions and a negative Wood´s lamp (except for glowing tips) is compatible with a cure.
- Histological examination is rarely reported as a routine diagnostic aid to diagnose small animal dermatophytosis.

Therapeutic topical recommendations

- Topical therapy is needed to kill spores on the hair coat and minimize environmental contamination.
- Lime sulphur, enilconazole, or 2% miconazole/ 2% chlorhexidine shampoo twice weekly are effective.
- Accelerated hydrogen peroxide products and climbazole and terbinafine shampoos show promise, but more in vivo studies documenting efficacy are needed.
- Miconazole 2% shampoos are effective when combined with 2% chlorhexidine.
- Chlorhexidine as monotherapy is poorly effective and is not recommended.
- For localized treatment, clotrimazole, 2% miconazole, and 0.2% enilconazole have some data to document effectiveness. These are recommended as concurrent treatments, but not as sole therapy.

Therapeutic systemic recommendations

- Itraconazole (non-compounded) 5 mg/kg orally used as pulse therapy or as daily therapy.
- Terbinafine 20-40 mg/kg orally q 24h daily.
- Griseofulvin 50 mg/kg q 24h orally is effective but also has more potential adverse effects compared to itraconazole and terbinafine.
- Ketoconazole and fluconazole 10 mg/kg q 24h are less effective treatment options and ketoconazole has more potential for adverse effects.
- Antifungal vaccines may be useful adjunct therapy; not protective against infection risk.

Environmental disinfection

- Environmental decontamination´s primary purpose is to prevent fomite contamination and false positive fungal culture results.
- Infection from the environment alone is rare.
- Infective material is easily removed from the environment; if it can be washed, it can be decontaminated.
- Minimize the risk of disease transmission to people and other animals.
- Minimize fomite carriage on the hair coat of animals that can complicate monitoring of disease.
- Minimizing contamination of the environment involves clipping of affected lesions, topical therapy, and routine cleaning.
- Confinement of animals needs to be used with care and for shortest time possible. Behaviour and socialization problems can be life-long if the young or newly adopted animals are not socialized properly.

Zoonotic implications

- Dermatophytosis is a known zoonosis and causes skin lesions which are treatable and curable.
- Dermatophytosis is a common skin disease in people. The true rate of transmission from animals to people is unknown.
- In people, the predominant dermatophyte pathogen is non-animal-derived *T. rubrum* and the most common clinical presentation in people is onychomycosis (i.e. “toe nail fungus”).
- The most common complication of *M. canis* infections in immunocompromised people is a prolonged treatment time.

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