

DERMATOMYCOSES

[Ringworm (Dermatophytosis, Tinea, Trichophytosis, Microsporosis, Jock Itch, Athlete's Foot)]

SPECIES: Dogs, cats, rodents, domestic animals

AGENT: Organisms are subclassified into: 1. Geophilic - inhabit soil 2. Zoophilic - parasitic on animals 3. Anthropophilic - Primarily infects humans. All can produce disease in humans. Grouped in three genera 1. Microsporum 2. Trichophyton 3. Epidermophyton

RESERVOIR AND INCIDENCE: Fungal spores remain viable for long periods on carrier animals and fomites. Exposure to reservoir hosts harboring different dermatophytes determines the type and incidence of infection in humans. **Microsporum canis can be carried by up to 89% of nonsymptomatic cats. Up to 50% of people exposed to infected cats, both symptomatic and asymptomatic, have acquired infection.** Pets may also acquire disease from humans. **T. mentagrophytes is most commonly transmitted to man from rodents, M. canis from dogs and cats, and T. verrucosum from cattle and horses.

TRANSMISSION: Direct or indirect contact with asymptomatic animals or with skin lesions of infected animals Contaminated bedding Equipment Fungi in air, dust, or on surfaces of room (spores persist on contaminated surfaces)

DISEASE IN ANIMALS: Disease in rodents is often asymptomatic and not recognized until people are affected. Infected cats are often asymptomatic. Dogs often show classic skin lesions. Varying severity of dermatitis occurs with local loss of hair. Deeper invasion produces a mild inflammatory reaction which increases in severity with the development of hypersensitivity.

DISEASE IN MAN: Often mild, self limiting; scaling, redness, and occasionally vesicles or fissures. Thickening & discoloring of nails. May show circular lesions which clear in the center forming a ring affect. Fungal infections in man are categorized as to the location on the body: 1. Tinea capitis - Scalp & hair 2. Tinea corporis - Body (extremities, arm and hand, are most often affected in infections acquired from lab animals.) 3. Tinea pedis - foot 4. Tinea unguium - Nails

DIAGNOSIS: KOH mount of skin scrapings, Fungal culture

TREATMENT: Macerated (moist softening and fissuring) stage- aluminum subacetate ("Domeboro") solution soaks with potassium permanganate for secondary infections. Broad spectrum antifungal creams and solutions containing imidazoles or ciclopirox instead of tolnaftate and haloprogin help to combat diphtheroids and other gram-positive organisms present at this stage and alone may be adequate therapy. Dry and scaly stage- several topical creams, liquids, or lotions are recommended (miconazole, clotrimazole, ketoconazole, econazole, sulconazole, oxiconazole, ciclopirox or naftifine.

Betamethasone dipropionate with clotrimazole is recommended for acutely inflamed tinea lesions. For severe cutaneous infections, griseofulvin or ketoconazole is recommended.

PREVENTION/CONTROL: Screen newly received animals. Routine sanitization of contaminated environment, equipment, and caging. Gloves, protective clothing, wash hands after exposure.

BIOSAFETY LEVEL: BL-2

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