Fungal Infections

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Clinical Classification

- Dermatophytes
- Molds
- Yeasts
- Subcutaneous mycoses
- Systemic or deep mycoses
Fungal Infections

DERMATOPHYTES
Dermatophytes

- Dermatophytes live as parasites in tissue containing keratin
- They can be divided into:
  - *Anthropophilic*: found in humans
  - *Zoophilic*: found in animals
  - *Geophilic*: found in soil
Dermatophytes

Determined by the nature of the dermatophyte, by the tissue it invades, and by the degree of host response. Infections with dermatophytes are usually called tinea; for further description, the anatomical site is added, such as tinea capitis for scalp disease.
Dermatophytes

- clinical infection usually starts from an inoculation site and spreads peripherally
- in nonmedical jargon, the diagnosis is often “ringworm” due to annular lesions with an active border
- zoophilic and geophilic infections always elicit a more intense immune response and thus appear more aggressive
- **Id reactions**: the immune response to dermatophyte infections can also cause disease at distant sites where no fungi are present
Diagnostic approach

- **Taking specimen**
  - disinfect site first
  - use a sterile instrument
  - obtain tissue from border zone

- **Microscopic examination**
  - hyphae or spores are identified after dissolving the keratin in a 10–15% solution of potassium hydroxide (**KOH examination**)
  - dyes can be added
Diagnostic approach

- **Culture**
  - usually two cultures are made, one on a media containing cycloheximide (for dermatophytes) and one without (yeasts and molds)

- **Wood’s light**
  - useful for *Microsporon* species and *Trichophyton schoenleinii*
  - a negative Wood’s light examination does not exclude a fungal infection