FUNGAL CULTURE

Dermatophytes, some molds, and Malassezia and Candida yeasts are the main etiologic agents for fungal infections of the skin, hair, and nail. The sensitivity of a fungal culture varies between 25% - 85% and depends upon various factor:

- Sampling methods
- Transportation of the sample
- Selection of fungal media
- Optimal temperature conditions
- Existence of viable fungal cells

The culture method is currently regarded as the gold standard for confirming a clinical diagnosis of a fungal infection; however, drawbacks include false-negative culture rates ranging from 15% to 50%.

Primary isolation of fungal species should be carried out on specific media:

- Dermatophytes
    - Sabouraud dextrose agar (SDA) with cycloheximide, chloramphenicol, and gentamycin
    - Mycosel® agar
    - Dermatophyte Test Medium (DTM®)
- *Candida* and molds
    - SDA without antibiotic
- *Malassezia sp*
    - Modified Leeming-Notman agar medium
    - Modified Dixon agar medium

Fungal cultures taken from the primary isolation media may be transferred to specified media for morphological and biochemical differentiation. For example, the media used to study conidia, non-reproductive structures, and certain biochemical properties are:

- Potato dextrose agar
- Cornmeal agar
- Malt extract agar
    - Used to induce conidia formations in filamentous fungi
- Christensen's urea agar
    - Used to detect urease activity in trichophyton, various molds, and yeasts
- Trichophyton agar
    - Used to determine the nutritional requirements of Trichophyton sp
- Esculin agar
    - Used for differentiation of some Malasseziasp

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