



## Mycology

*-by Dr. Tejash Gohel & Dr. Suwarna Pawar*

A 44-years old male came with history of itching, redness and hyperpigmentation on the right lateral aspect of the foot and ankle joint (Fig. 1). He had a history of exposure of the legs to dirty rain water. There was no history of trauma.

A skin scraping sample was taken from the appropriate site for fungal microscopy and KOH (potassium hydroxide) mount showed plenty of branched fungal hyphae (Fig. 2) suggestive of dermatophytic infection. On the same day, he was started on antifungal treatment and he was eventually cured.

Identification of fungus is done by various means like KOH mount, LPCB (lacto-phenol cotton blue) mount, nigrosin staining, gram smears and slide cultures. All kinds of samples can be processed for fungal culture and identification, including blood and body fluids. Identification and susceptibility of yeast on fully automated equipment like BacT/ALERT & VITEK 2-Compact can also be done. For identification of moulds, slide culture and LPCB mount are typically done.



**Fig.1:** Photograph of the leg and foot. Redness and hyperpigmentation are seen on the lateral aspect of the right ankle with demarcated margins, suggestive of dermatophytic infection.



**Fig.2:** KOH mount of skin scraping shows multiple branched fungal hyphae.

*At a glance:*

- Diagnosis of fungal infection is contingent upon the proper selection and collection of clinical specimens.
- Fungal infections are rapidly diagnosed by detecting fungal elements on direct microscopy.
- With the emerging antifungal resistance to fungal infection, identification and susceptibility is needed.

Identification of fungus is significantly valuable especially when the morphology of skin lesions resembles many other non-fungal lesions. Onychodystrophy is non-specific unless we rule out fungal infection. In the current scenario, dermatophytosis relapses rapidly despite adequate conventional treatment hence fungal testing plays a very important role in the identification of drug susceptibility to selected antifungal drugs. Deep seated mycosis often remains a mystery unless a vigilant laboratory picks it up. Tinea versicolor, candidiasis and many other fungal infections have several times bewildered dermatologists, hence microbiological testing is important for complete and effective treatment and to avoid the unnecessary use of steroids.

Sample collection is very important for fungal identification when there is high clinical suspicion. Sampling of nail, hair, skin scraping, skin slit smear (for leprosy) should be done by a microbiologist to rule out pre-analytical error and to ensure an accurate and precise. All positive or critical reports are conveyed to the treating doctor by microbiologist.

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