Microbiology – Lab

(Superficial and Cutaneous Infections)

Potassium Hydroxide (KOH): A very strong base that destroys and dissolves only the epithelial cells leaving the fungus intact (Fungi are resistant to it). It is a colorless chemical solution.

How to diagnose a fungal infection of the skin:

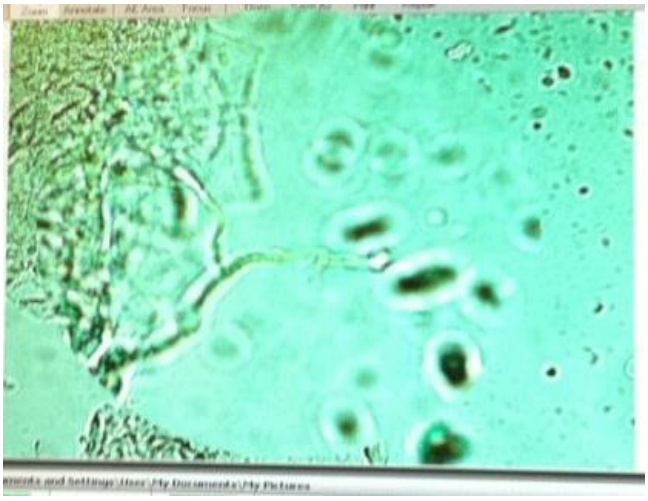
- The dermatology clinic collects a skin scraping from a patient and sends it to the microbiology labs for diagnosis. In the lab, they take the sample and put it on a sterile slide (cleaned by alcohol swab to kill the bacteria). The fungus won't be affected since it is resistant to the 70% alcohol swab (70% is the concentration of the alcohol in the swab).

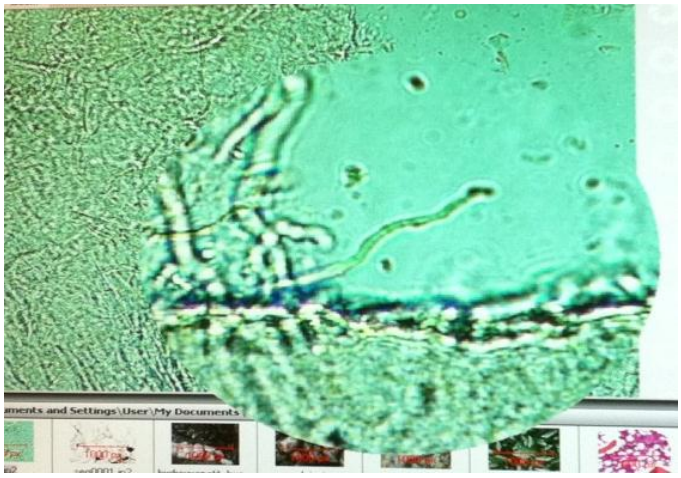
Skin scraping → put on a sterile slide → add few drops of KOH

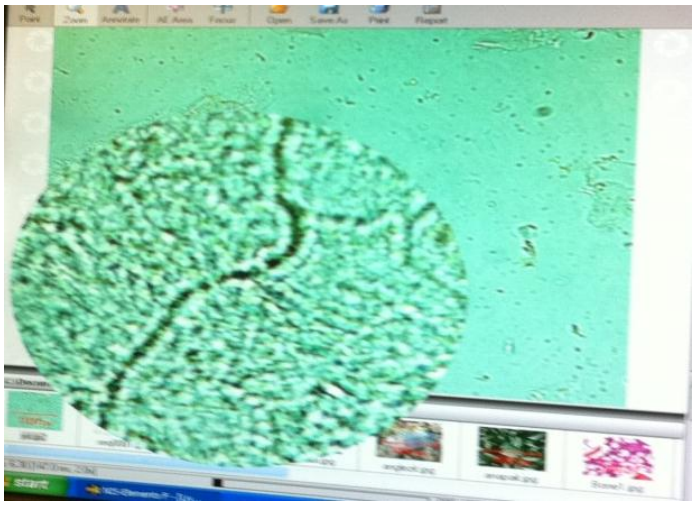
- After culturing the fungi on an agar, a sample of the colony is taken to be examined under the microscope. In filamentous fungi, the conidia's shape and size are the indicators for the type of fungi that causes an infection. Sometimes it's very difficult to identify the micro conidia (conidia seen under the microscope); what to do in this case is to culture it on a different media [subculture media] to enhance the conidia production by a fungus.

  - The yeast fungi can't be identified by microscopic examination (they all have the same morphology microscopically and macroscopically). They can be identified by tube tests or biochemical tests.

The long fungal hyphae of Tinea Pedis (Dermatophyte in the foot [athlete's foot]):







>> Fungal hyphae within tissue