

## **Fungi (Mycology)**

### **Properties of fungi**

Eukaryotic cells, unicellular and multicellular, contain nucleus and organelles, cell wall contain chitin, reproduction by sexual and asexual spores or budding.

**Note:** some fungi lack sexual phase called imperfect fungi or deuteromycota.

### **Classification of fungi**

١- **Yeast:** unicellular, reproduce by budding, growth at ٣٧C (body temperature) for ٢٤-٤٨ hours.

٢- **Molds:** Multicellular (filamentous hyphae), reproduce through either sexual or asexual spores, growth at ٢٢-٢٥ C (environment temperature) for ٥-٧ days.

٣-**Dimorphic fungi:** are exist as molds in the environment temperature and as yeasts in body temperature.

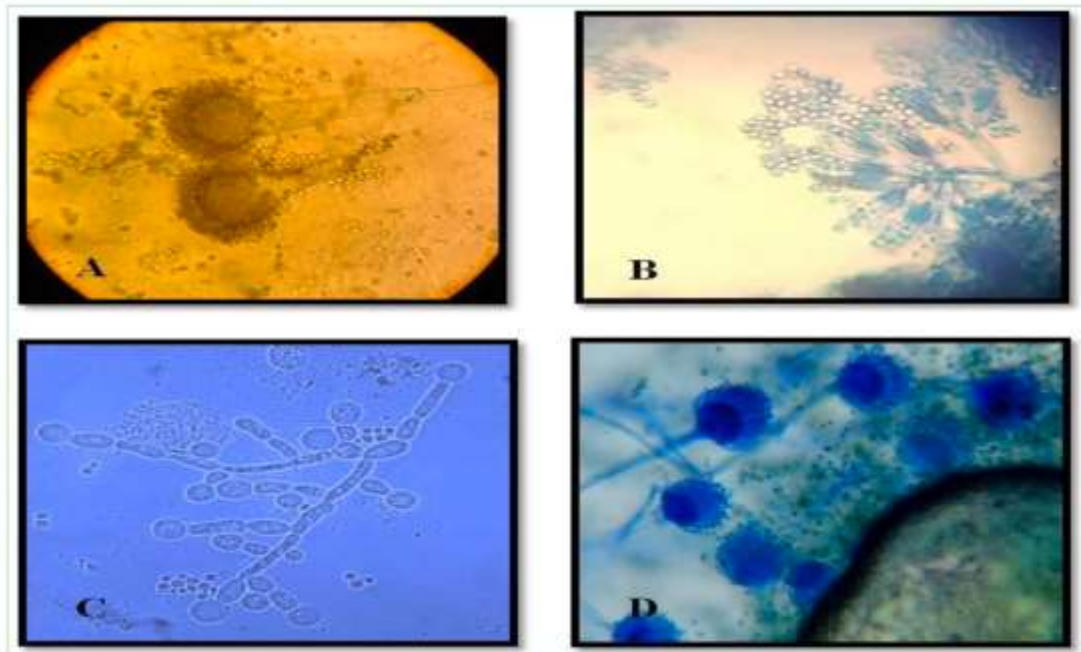
### **Mycoses (Fungal Infections)**

- Cutaneous Mycoses: Fungal infection of skin, hair, nails.
- Subcutaneous Mycoses: Infection beneath the skin and more dangerous than cutaneous.
- Opportunistic mycoses: Fungal infection occurring in deficiency of immunity.
- Systemic mycoses: affecting internal organs.

### **Identification of fungi**

١- Microscopic examination:

Fungi were placed on a slide, stained with lactophenol cotton blue (general stain) to detect fungal structures covered with a cover slide, examined under microscope.



**Figure 1:** A and D :*A. flavus* (conidial head) B: *Penicillium spp.* and C: *C. albicans*.

#### γ- Morphological and cultural characteristics

The shape, size, color, edge and appearance of fungal isolates were studied on Sabouraud dextrose agar (SDA) (general medium of fungi) after 24-48 hours of incubation for yeast isolates and 2-7 days for molds isolates.



**Figure ٢:** colonies of yeasts with cream color and smooth texture.



**Figure ٣:** colonies of molds with color (black , green , yellow) and rough texture.

### **Antifungal agents (treatment)**

Nystatin,

Terbinafine,

Amphotericin B