



SNS COLLEGE OF ALLIED HEALTH SCIENCES
SNS Kalvi Nagar, Coimbatore - 35
Affiliated to Dr MGR Medical University, Chennai



DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE
TECHNOLOGY

COURSE NAME: GENERAL PATHOLOGY
I YEAR

UNIT IV : INFECTIOUS DISEASES

TOPIC : FUNGAL INFECTION

SUB TOPIC 1: CANDIDIASIS



Fungal Infection – Introduction



Fungal infections are also called as Opportunistic Infections.

Opportunistic infects are caused by the normal flora that become pathogenic, in case of immunodeficiency.

The highest frequency of opportunistic fungal infections are,

Candidiasis

Aspergillosis

Cryptococcosis





Candidiasis

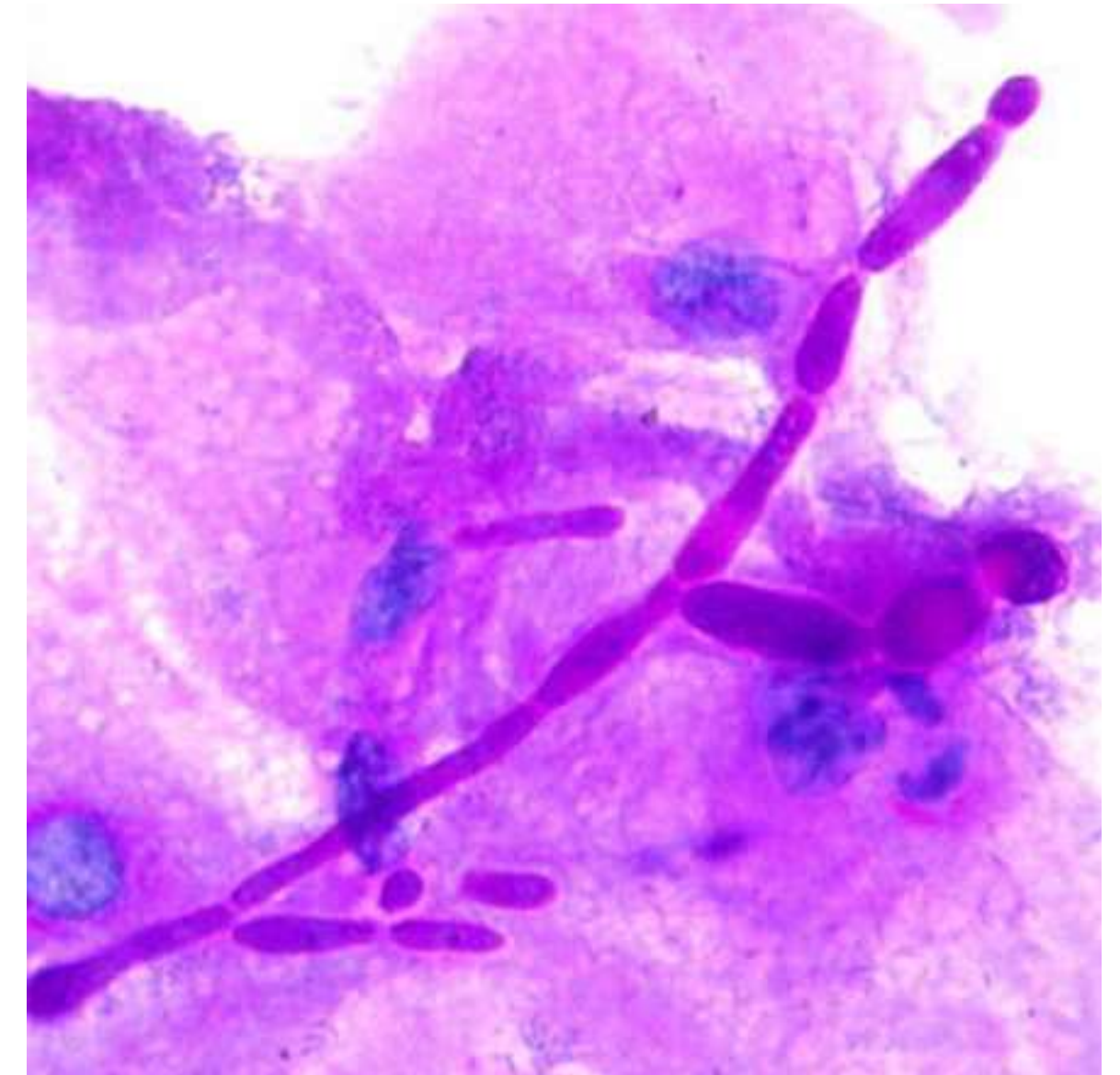


Definition:

- Candidiasis also known as Monoliasis
- It can infect Skin, Mucous and Internal organs
- Candida as a normal flora present in mouth and GI Tract and Vagina

Opportunistic Cause:

- Colonization in Pregnancy and Hospitalization
- Immunity depends on T Lymphocyte reduction

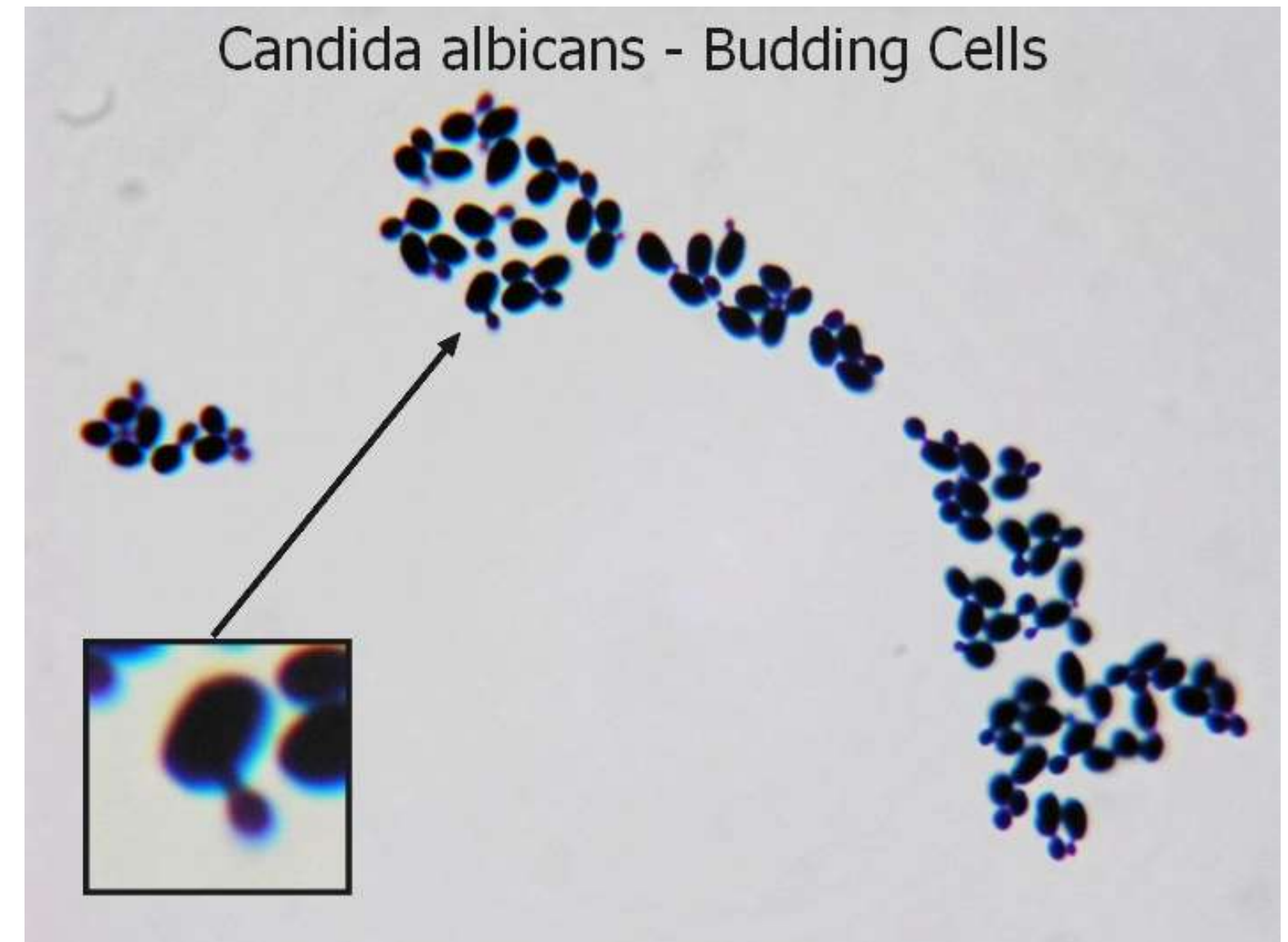




Structure Of Candidiasis



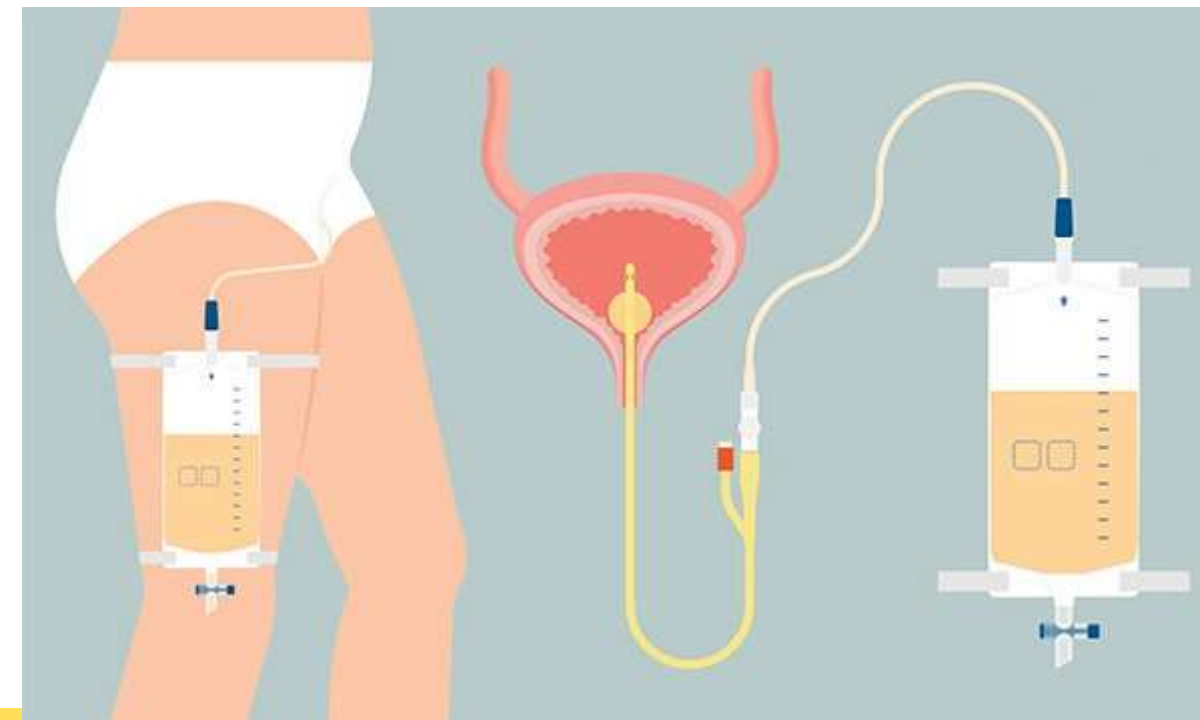
- Candida species are asexual **yeast**
- Genetically diploid with 8 chromosomes
- **Small** in structure (4 to 6 um)
- Thin walled
- **Ovoid cells** reproduce by budding
- Grow well in vented blood culture, agar plate
- Responsible for 8 – 15% of nosocomial blood stream infection





Predisposing Factors

- Immuno-compromised state i.e. AIDS, malignancies i. e. lymphomas, leukaemia, conditions like diabetes mellitus, TB etc.
- Prolonged use of antibiotics, anticancer drugs & anti-inflammatory drugs
- Low birth weight neonates
- Therapeutic procedures eg. organ transplantation, open heart surgery.
- Indwelling catheters e.g. urinary & parenteral drug administration.
- Burn patients

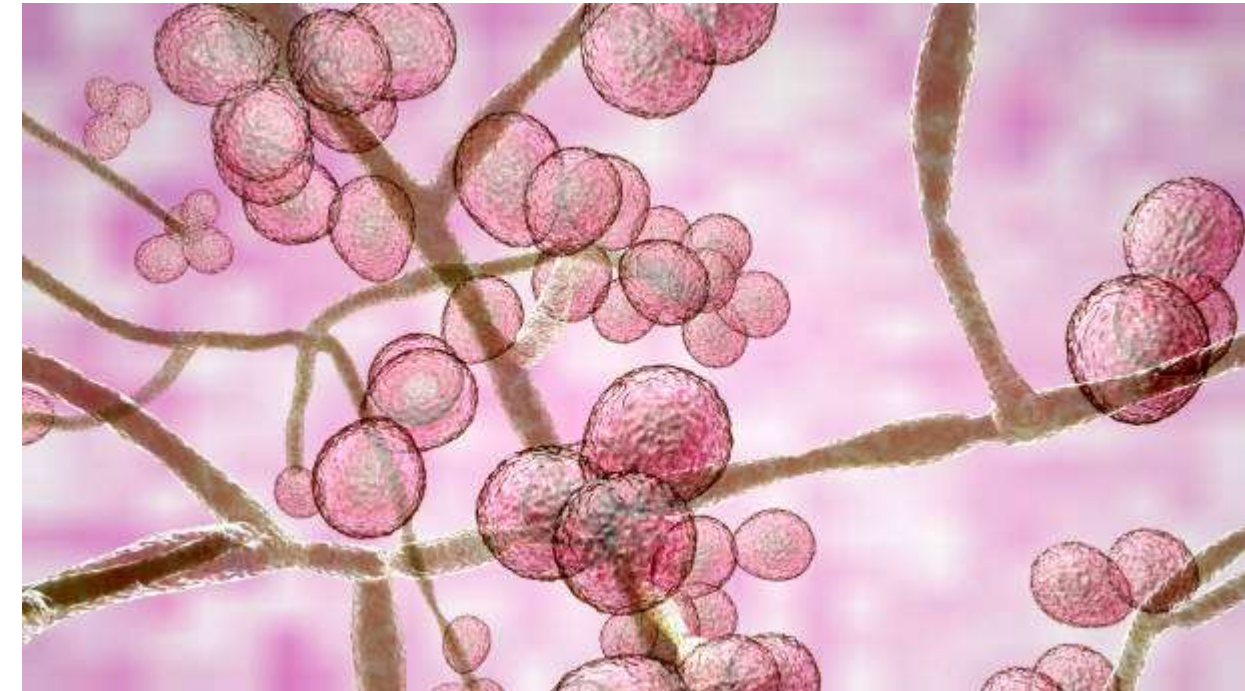




Important species of Candida



- **C. Albicans**
- C. Tropicalis
- C. Glabarata
- C. Krusei



- In which C. Albicans is the most common form of fungal infection, which is responsible to be the cause of 4% nosocomial infection.
- 75% of women may be infected at least once in their life time



Morphological Features



Oral thrush

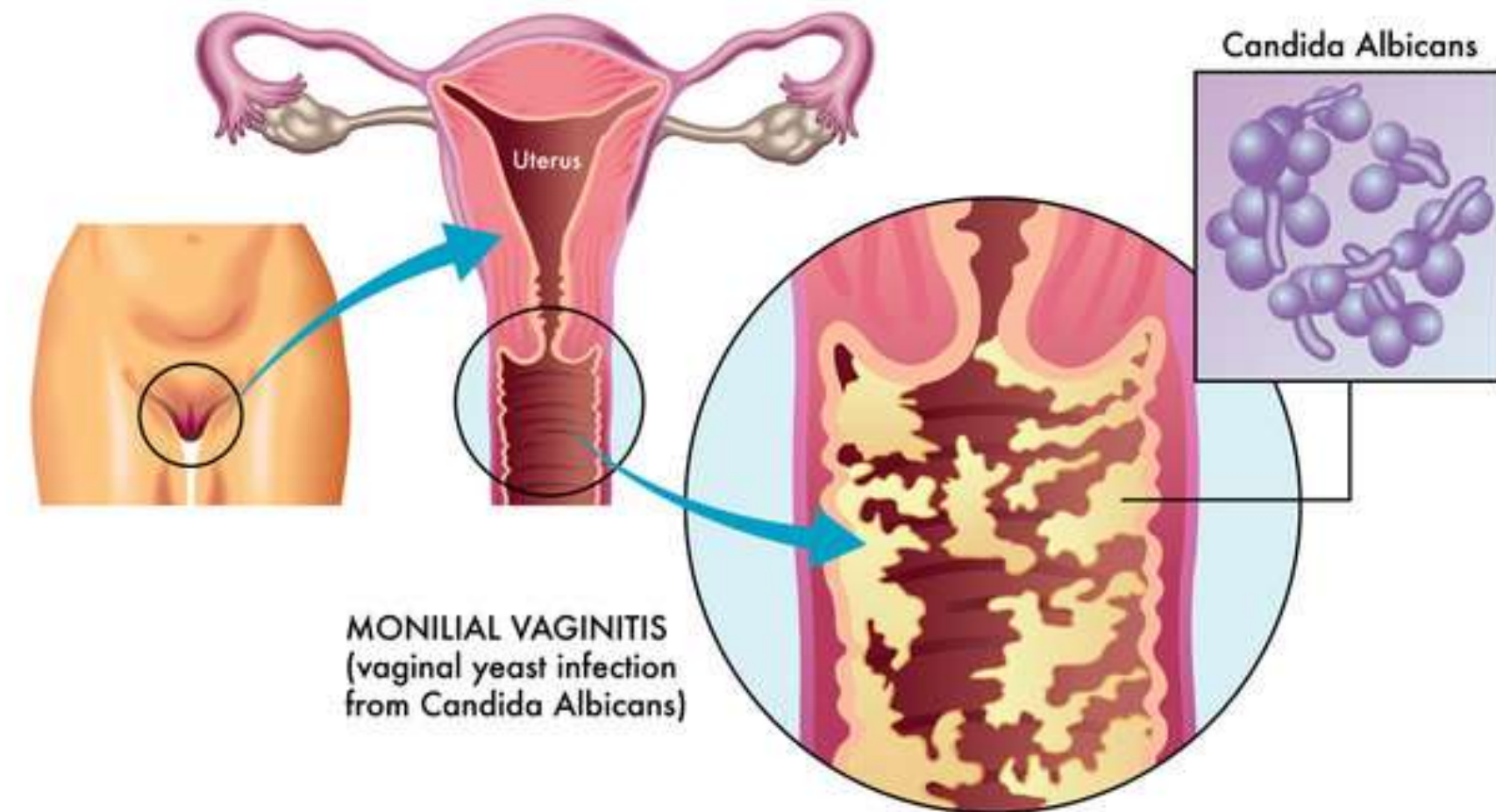
- Form of mucocutaneous candidiasis
- Lesions - creamy white pseudomembrane composed of fungi
- Occurs in the covering the tongue, soft palate, and buccal mucosa



Morphological Features

Candidal vaginitis:

- Vaginal candidiasis or monilial
- Vaginitis is characterised clinically by thick, yellow, curdy discharge.
- The lesions form pseudomembrane of fungi the vaginal mucosa.





Morphological Features



Cutaneous candidiasis:

- Candidal involvement of nail folds
- change in the shape of nail plate occurs
- colonisation in the areas of the skin, axilla, groin, infra- and inter-mammary, intergluteal folds and interdigital spaces.
- common forms of cutaneous lesions caused by *Candida albicans*





Morphological Features



Systemic candidiasis:

- Invasive candidiasis is rare
- The organisms gain entry into the body through an **ulcerative lesion** on the skin and mucosa.
- Introduced by **iatrogenic** means such as via IV infusion, peritoneal dialysis or urinary catheterisation.
- The lesions of systemic candidiasis are most commonly encountered in kidneys
- **Pyelonephritis and Candidal endocarditis** will occur





Laboratory Investigations



- Skin scrapping
- Mucosal Scrapping
- Vaginal secretions
- Blood culture
- Microscopic observation through gram staining
- PCR





Treatment for Candidiasis



Antifungal Drugs

- Amphotericin B
- Clotrimazole
- Ketoconazole

Dietary Management:

- Eliminate sugar contents
- Eat high protein, lower carbohydrates, high fibers
- Avoid fermented foods

