

Candidiasis :

Candidiasis is a fungal infection which is caused by a type of fungus called candida. Candida is a type of yeast that lives in our mouth, throat, gut or vagina (in case of women), or on the skin. There are many species of the fungus candida causes of fungal infection.: *Candida albicans*, *Candida glabrata*, *Candida tropicalis*, *Candida parapsilosis*, but *candida albicans* are the most that usually cause the infections.

Clinical manifestations:

1- Oropharyngeal candidiasis: including thrush, glossitis, stomatitis and angular cheilitis.

Oral candidiasis is the most common oral fungal infection. Oral candidiasis is considered an opportunistic infection, occurring more frequently in persons with impaired immunity.

In thrush, white or yellow patches appear on the tongue, gums, lips, inner cheeks, and roof of the mouth. There is also redness and soreness in the mouth and throat. If the infection spreads to the throat, then there may be pain in swallowing too.



Figure (1) Oral candidiasis in a new born (left) and in an immunosuppressed patient (right).

2- Cutaneous candidiasis: including intertrigo, diaper candidiasis, paronychia , onychomycosis and Vulvovaginal .

Candidiasis skin infection. Hand of a patient affected by candidiasis, a fungal infection of the skin. Candidiasis is a common infection of the moist areas of the body, Candidiasis causes an itchy red rash Irritation Pain, Blisters

Cracked skin those who have a compromised immune system are at an increased risk of developing a severe infection. candidiasis is most commonly seen in the axillae, groin, inter- and sub-mammary folds, interdigital spaces, and umbilicus. Moisture, heat, friction and maceration of the skin are the principle predisposing factors in the normal patient.

Vulvovaginal candidiasis is a common condition in women, , low vaginal pH and diabetes mellitus. Sexual activity and oral contraception may also be contributing factors and infections may extend to include the perineum, the vulva and the entire inguinal area. Symptoms include acute vulval Itch, burning and erythema associated with a fluid white .



Figure (2) Interdigital candidiasis and candidiasis between the toes mimicking tinea.



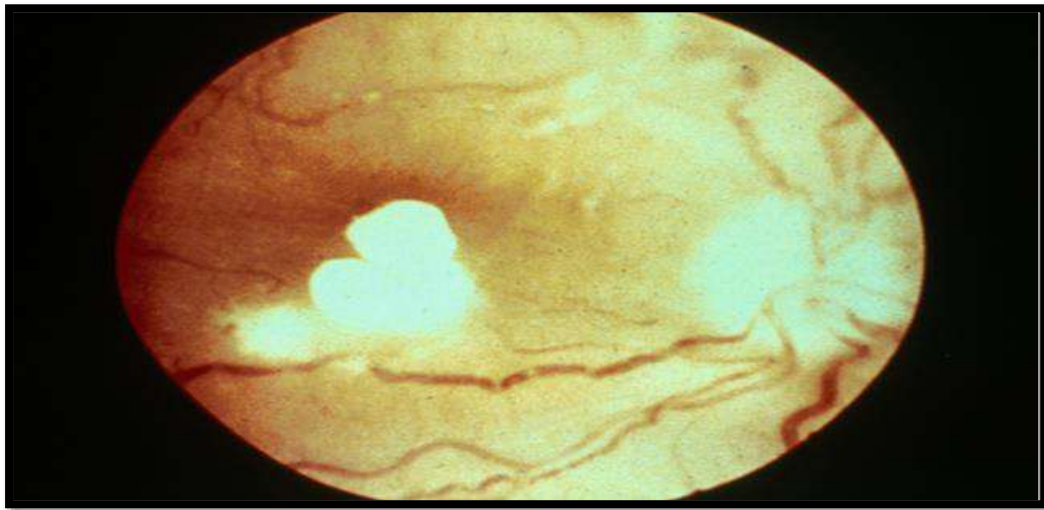
Figure (3) Nappy rash candidiasis in an infant which spread to the mouth area.

3- Candidemia (*Candida* septicemia)

Candidemia refers to the isolation of pathogenic species of *Candida* from a blood culture specimen. And the presence of species of *Candida* in the blood may then occur to one or more other organ systems *Candida* species have been reported to cause up to 15% of cases of septicemia seen in hospital patients.

4- Ocular candidiasis:

Candida endophthalmitis is often associated with candidemia, When this fungus infects the eye, the condition is known as ocular candidiasis. The infection is transmitted through the bloodstream, and affects the blood vessels of the retina. Lesions (yellow, centre and centre right) form and can cause blindness if left untreated.



Figure(4) Endophthalmitis due to *Candida*

5- Osteoarticular candidiasis:

Arthritis may be a late sequel of candidemia in neonates, Prosthetic or rheumatoid joints are also prone to infection by *Candida* . The knee is the main site involved with pain on weight bearing or on full extension. The diagnosis depends on the isolation of yeasts from joint fluid obtained by needle aspiration or from synovial biopsies .

Laboratory diagnosis:**1- Direct Microscopy:**

- (a) Skin and nails should be examined using 10% KOH and Parker ink or calcofluor white mounts .
- (b) body fluids should be centrifuged and the sediment examined using either 10% KOH and Parker ink or calcofluor white mounts and/or gram stained smears
- (c) Tissue sections should be stained using PAS digest, Grocott's methenamine silver (GMS) or Gram stain. Note Candida may be missed in H&E stained sections.

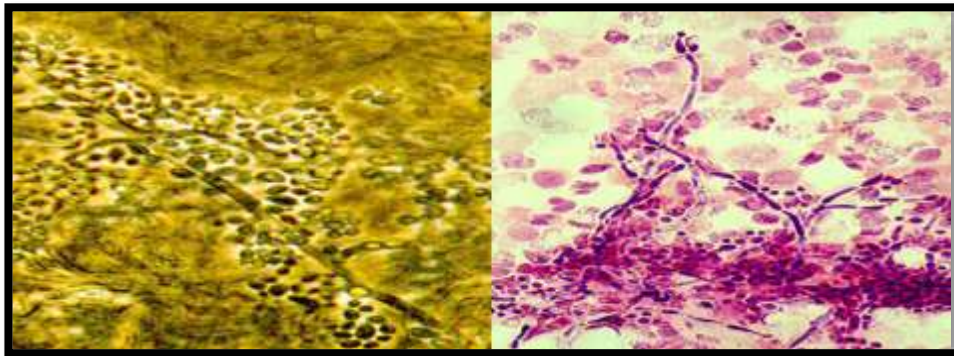


Figure (5) 10% KOH mount showing the presence of budding yeast cells and pseudohyphae in a skin scraping

2-Culture:

Colonies are typically white to cream colored with a smooth, glabrous to waxy surface.

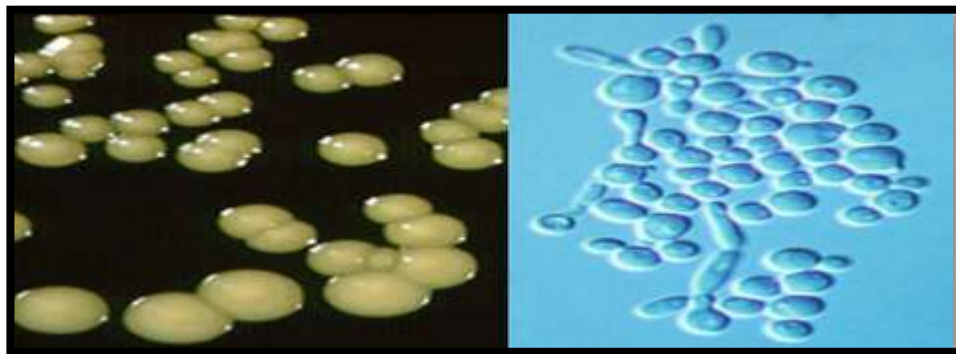


Figure (6) Typical moist colonies of Candida.