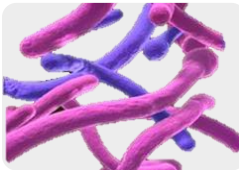




Candida albicans



General Information

Candida albicans is an opportunistic fungus (or form of yeast) that causes various types of infections in humans. This microorganism belongs to the genus *Candida*. *Candida albicans* is a part of the normal gut flora, a group of microorganisms that live in your mouth and gastrointestinal tract, and is present in up to 80% of the human population. It normally does not cause harmful effects; however overgrowth of the fungus can result in candidiasis (candidosis). Candidiasis is often observed in immunocompromised individuals, such as patients infected with HIV, diabetics or individuals with cancer or other autoimmune diseases.

Diseases caused by fungi are called mycotic diseases (**mycosis**). These diseases are divided into two categories:

1. True fungal pathogens (can invade and grow in a healthy, non-compromised host).
2. Opportunistic fungal pathogens (only pathogenic in immune-compromised patients).

These organisms normally reside in the mouth, skin, vagina, intestine, and skin without causing infections.

The most common infections caused by members of the *Candida* species include:

1. **Thrush:** a thick, white growth on the mucus membranes of the mouth and throat – neonates or those with opportunistic infection.
2. **Genital yeast infections:** a painful inflammatory condition of the genital area that causes ulceration and whitish discharge. Candidiasis in the vagina is commonly referred to as a “yeast infection.” This can be caused by use of antibiotics to treat other infections.
3. **Cutaneous candidiasis:** occurs in moist areas of the skin, in skin folds, neonates, burn patients and morbidly obese patients with large areas where cleansing of the skin due is difficult.



These infections are usually easily cured in people who are not immunocompromised.

Significance

Healthcare-associated candidemia:

Systemic fungal infections, including those by *C. albicans*, have emerged as important causes of morbidity and mortality in immunocompromised patients. Problems start when a person experiences some alteration in:

- Cellular immunity (i.e., chemotherapy or HIV)
- Normal body flora (i.e. the loss of normal bacterial flora due to antibiotics or steroid therapy)
- Normal physiology (i.e. cardiac surgery or indwelling catheters)

Candida yeasts normally live in and on the body without causing any symptoms. Invasive candidiasis is a fungal infection that can occur when *Candida* yeasts enter the blood stream. In people at risk, invasive candidiasis may occur when a person's own *Candida* yeasts enter their bloodstream, or it can also happen if medical equipment or devices, particularly intravenous (IV) catheters, become contaminated with *Candida*. The presence of *Candida* in the blood is a condition referred to as candidemia.

Candida is one of the most common causes of central-line associated infections in healthcare settings; and although it is rare in people without risk factors, it is the fourth most common cause of hospital-acquired blood stream infections in the United States. Once it's in the bloodstream, the infection may spread and infect various organs.

Symptoms

Symptoms depend on the site of infection. Candidemia symptoms are not different from other blood stream infections, and normally include fever and chills. Without appropriate therapy the infection may spread to other organs, and could lead to multi-organ failure.

Invasive candidiasis is normally diagnosed through a blood culture.



Transmission

Because Candida is a normal inhabitant of the body, the infection may be caused when the patient's own flora enters the blood stream or through contamination of the intravenous device.

Hands of healthcare workers and environmental surfaces have not been shown to be a source of transmission of Candida.

People at highest risk for developing candidemia include:

- Intensive care unit (ICU) patients
- Surgical patients
- Patients with central venous catheters
- Very low-birth-weight infants

Treatment

Candida infections can be treated with anti-fungal medications. Invasive candidiasis requires treatment with oral or intravenous antifungal medication for several weeks, the length and treatment plan are dependent on the severity of the infection. Treatment should also include the prompt removal of catheters. Anti-bacterial drugs are not effective against fungal infections.

Prevention





















In some high-risk patients, anti-fungal agents may be used prophylactically to prevent infections. Good infection control practice including proper hand hygiene in addition to following the infection prevention guidelines published by the CDC, Health Canada, and professional associations (such as the Society of Healthcare Epidemiology of America (SHEA) and the Infectious Disease Society of America (IDSA) are the best method for preventing of these life-threatening infections.

Patients and their families should ask if a central line is really needed, and if so, they should speak up if the skin around the central line becomes sore or red, or if the dressing becomes wet or dirty.



Guidelines and Recommendations Cleaning and Disinfection of Environmental Surfaces

Below is a list of Diversey Care disinfectants that are effective against fungi:

Product	Oxivir®1 RTU / Wipes	Oxivir® Tb RTU / Wipes	Oxivir® Five 16	Alpha® HP Multisurface Disinfectant Cleaner	Avert™ Sporidical Disinfectant Cleaner/Wipes	Virex® II 256	Virex® Tb	Virex® Plus	Expose® II 256	MoonBeam®3 UV Disinfection
Contact Time (Min)	1	10	5	5	1	5	3	3	10	3
										
Product	Oxivir® Tb RTU / Wipes	Oxivir® Plus (Concentrate)	Virox® 5 Concentrate	Virox® 5 (RTU & Wipes)	Percept ^{(TM)MC} (Concentrate, RTU & Wipes)	Virex® II 256	Avert™ Disinfectant Cleaner	MoonBeam®3 UV Disinfection		
Contact Time (Min)	1	5	5	5	5	5	1	3		
										

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References: CDC.gov