**Zoonotic Diseases** **Mycology Topics**

**4th Class/ 2nd semester 2023- 2024** **Dr. Zainab A. A. Al-haddad**

## Candidiasis

**Some of the hundreds of *Candida* species can cause infection in humans; the most common is *Candida albicans*. *Candida* normally lives inside the body (in places such as the mouth, throat, gut, and vagina) and on the skin without causing any problems. *Candida* yeasts can cause infections if they grow out of control or if they enter deep into the body (for example, the bloodstream or internal organs like the kidney, heart, or brain).**

***Candida albicans*** **is part of our natural microflora — or the microorganisms that commonly live in or on our bodies. It can be found in the GI tract, the mouth, and the vagina**

## Types of Candidiasis :

**1-Candida infections of the mouth, throat, and esophagus**

**2-Vaginal candidiasis**

**3-Invasive candidiasis**

***Candida albicans*** **is the most prevalent cause of fungal infections in people. Its species name, *albicans*, comes from the Latin word for "white." The yeast appears white when cultured on a plate. And in the case of certain infections, like thrush, it can create white patches.**

## *Thrush (Oropharyngeal Candidiasis*)

**When the candida yeast spreads in the mouth and throat, it can cause an infection called thrush. It's most common in newborns, the elderly and people with weakened immune systems. Also more likely to get it.**

## Signs and symptoms

**include white patches on the tongue or other areas of the mouth and throat, Other symptoms may include soreness and problems swallowing.**

## Vaginal Candidiasis Signs and symptoms

**include genital itching, burning, and sometimes a white "cottage cheese-like" discharge from the vagina, Yeast infections of the penis are less common and typically present with an itchy rash. Very rarely, yeast infections may become invasive, spreading to other parts of the body. This may result in fevers along with other symptoms depending on the parts involved**

**Vaginal infections occur more commonly during pregnancy, in those with weak immune systems, and following antibiotic use. Individuals at risk for invasive candidiasis include low birth weight babies, people recovering from surgery, people admitted to intensive care units, and those with an otherwise compromised immune system**

**Candida albicans is an opportunistic pathogenic yeast that is a common member of the human gut flora. It can also survive outside the human body. It is detected in the gastrointestinal tract and mouth in 40–60% of healthy adult**

**, candida infections of the mouth, skin, or vagina occur for no apparent reason. A common cause of infection may be the use of antibiotics that destroy beneficial, as well as harmful, microorganisms in the body, permitting candida to multiply .**

## Candidiasis in Animals:

**The organism most frequently infects birds, in which it involves the oral mucosa, esophagus, and crop. Superficial infections limited to the mucous membranes of the intestinal tract have been described in pigs and foals. Systemic candidiasis has also been described in cattle, calves, sheep, and foals secondary to prolonged antibiotic or corticosteroid therapy. In cats, candidiasis is rare but has been associated with oral and upper respiratory disease, pyothorax, ocular lesions, intestinal disease, and urocystitis. Infections are rare in dogs and horses. However, *Candida* spp have been considered a cause of arthritis in horses and mastitis and abortion in cattle. Fungemia and *Candida* peritonitis have been noted in dogs with perforating intestinal lesions after surgery, and mucosal and cutaneous candidiasis has been noted in immunosuppressed dogs and in dogs with diabetes mellitus.**

## Diagnosis:

**Fungal organisms are numerous in proliferating epithelial tissue, and diagnosis can be made by examination of scrapings or biopsy specimens from mucocutaneous lesions. *C albicans* are ovoid, budding yeast cells (2–4 μm in diameter) with thin walls, or they occur in chains that produce pseudohyphae when the blastospores remain attached after budding division. Filamentous, regular, true hyphae also may be visible. The fungal cells generally are limited to epithelial tissue and rarely extend deeper.**

## Treatment:

**Nystatin ointment or topical application of amphotericin B or 1% iodine solution may be useful in the treatment of oral or cutaneous candidiasis. Amphotericin B, 500 g in 1 L of 5% dextrose, was administered IV, every 48 hr for 24 days and then every 72 hr for 15 days, to successfully resolve arthritis induced by *C fumata* in a horse. Fluconazole (5 mg/kg/day, for 4–6 wk) was also used to successfully treat disseminated candidiasis in foals. Itraconazole and amphotericin B lipid complex are considered the treatments of choice in dogs.**

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