

## FAQ Candidaemia

### 1. What is candidaemia?

Candidaemia is a bloodstream infection caused by a yeast known as *Candida*. It is commonly seen in hospital inpatients. There are over hundred different types of *Candida*, but only a few cause infections in humans. The most common causes of candidaemia are *Candida albicans*, *Candida krusei*, *Candida glabrata*, *Candida tropicalis*, *Candida parapsilosis* and *Candida auris*. *C. auris* is an emerging cause of serious *Candida* infections worldwide and is particularly concerning due to its frequent resistance to common antifungals and its ability to spread easily between people.

### 2. Who is at risk of candidaemia?

Risk factors for candidaemia include:

- Patients who have been admitted to the hospital for a long period, or intensive care unit (ICU) admissions
- Prolonged courses of antibiotics
- Immunocompromised (weakened immune systems) due to factors such as chemotherapy, transplant, or individuals with uncontrolled diabetes
- Having central venous catheters in place
- Low weight (particularly in infants) and the elderly
- Gastrointestinal surgery
- Intravenous drug users

### 3. How does it spread?

*Candida* normally resides in various parts of the body, including the mouth, vagina, gut, and skin, without causing disease and are therefore called commensals. However, if *Candida* moves from its normal location (e.g. due to intravenous catheters), it can enter the bloodstream. These organisms can also persist on hospital surfaces and can easily spread if proper hygiene measures (such as handwashing) are not followed. Once in the bloodstream, the infection can spread to other organs, leading to invasive candidiasis.

### 4. What are the symptoms of candidaemia?

The symptoms of candidaemia are non-specific and depend on the source of the infection. Common symptoms include:

- Fever and chills
- Generalized weakness
- Lethargy/ poor feeding (in children)
- Abdominal pain

- Headaches
- Muscle aches
- Organ dysfunction in severe cases

## **5. How can it be diagnosed?**

Candidaemia is diagnosed by sending a blood sample to the laboratory for analysis. The presence of any *Candida* species in the blood confirms the diagnosis. Antigen tests (e.g. detecting components of the *Candida* cell wall) can also be used, although their specificity for *Candida* is poor, and they do not identify the specific species, which is important for treatment decisions.

## **6. How can it be treated?**

Prompt and appropriate therapy is crucial for candidaemia. The first step is to identify and remove the source of infection, such as central venous catheters if possible. Antifungal medication is administered intravenously and the choice depends on the species identified by the laboratory since certain species are drug resistant. Available antifungal medications include azoles (e.g. fluconazole, voriconazole, posaconazole), polyenes (e.g., amphotericin B), and echinocandins (e.g. micafungin, caspofungin, anidulafungin). Some patients with severe disease may require additional measures to stabilize their condition, such as fluid resuscitation or organ support.

## **7. How can it be prevented?**

To prevent candidaemia, it is essential for everyone to practice good hygiene, including proper handwashing techniques. In a hospital setting, measures such as maintaining central lines properly and using antibiotics judiciously can help prevent infections. Some high-risk patients, such as transplant recipients or those with neutropenia, may benefit from antifungal prophylaxis, which entails receiving antifungal medication to prevent infection.

## **8. What is the epidemiological situation in South Africa?**

For two decades, South Africa has been the scene of multiple emergence of *Candida* species resistant to one or more antifungal therapeutic agents. Our institution, through the national surveillance system GERMS-SA, has closely monitored these phenomena to assist clinicians in the management of candidaemia.

## **9. Where can I get more information?**

Where possible, consultation with healthcare professionals (e.g. infectious disease specialists or microbiologists) for specialized guidance and information tailored to your specific situation. Alternatively;

- For clinical or medical enquiries, call the National Institute for Communicable Diseases (NICD hotline for healthcare professionals only) 080 021 2552
- For laboratory-related enquiries, contact the Centre for Healthcare-Associated Infections, Antimicrobial Resistance and Mycoses (CHARM), NICD +27 11 386 6278
- For more information on *Candida* infections and management, visit the NICD website <https://www.nicd.ac.za/diseases-a-z-index/candida-auris/>