



Global Alliance for Infections in Surgery



Candida auris
**a globally emerging
public health problem**

***Candida auris* is an emerging fungus that presents a serious global health threat.**

it is resistant to multiple antifungal drugs commonly used to treat *Candida* infections.

It is difficult to identify with standard laboratory methods, and it can be misidentified in labs without specific technology.

It has caused outbreaks in healthcare settings. Therefore, it should be quickly identified in a hospitalized patient so that healthcare facilities can take special precautions to stop its spread.

Antimicrobial resistance (AMR) has emerged as one of the principal public health problems of the 21st century. This has resulted in a public health crisis of international concern, which threatens the practice of modern medicine, animal health, and food security. The substantial problem of AMR is especially relevant to antibiotic resistance, although antifungal resistance is increasing at an alarming rate.

The frequency of fungal infections has increased in recent years, largely because of the increasing size of the at-risk population, which includes cancer patients, transplant recipients, patients with human immunodeficiency virus infection, and other patients who receive immunosuppressive therapy. In addition, they are relatively common in critically ill patients and are associated with considerable morbidity and death. Although *Candida albicans* still remains the main agent of hospital-acquired fungal infection, several species of non-albicans *Candida* namely *C. tropicalis*, *C. glabrata*, *C. parapsilosis*, and *C. krusei* account for increasing incidence of invasive infections with high rates of therapeutic failure, mainly related to echinocandins and azoles resistance.

Recently, a new MDR species, *Candida auris*, emerged causing persistent multi-regional outbreaks. Despite being a newly emerged multidrug-resistant fungal pathogen, it is associated with severe invasive infections and outbreaks with high mortality rates.

Initially reported from Japan in 2009, *Candida auris* have now been found in different countries on all the continents. However, the real prevalence and the epidemiology of *Candida auris* still remain uncertain. One of the causes may be the underestimation of its isolation due to the limited accuracy of available conventional diagnostic tools.

Due to its capability of nosocomial transmission and forming adherent biofilms on clinically important substrates, a high number of related hospital outbreaks have been reported worldwide. As *Candida auris* is a multidrug-resistant pathogen and is prone to misidentification by available conventional methods, it is difficult to eradicate and leads to frequent therapeutic failures of *Candida auris* infections.

Limited data suggest that the risk factors for *Candida auris* infections are similar to those for other types of *Candida* infections. These include multiple underlying diseases (such as diabetes mellitus, malignancy, chronic kidney disease, neutropenia), prior or concomitant bacterial infection, broad-spectrum antibiotic and antifungal use, recent surgery, presence of central venous catheters or urinary catheters, stay in ICU and total parenteral nutrition administration. People who have recently spent time in nursing homes and have indwelling lines and tubes (such as breathing tubes, feeding tubes and central venous catheters), appear to be at highest risk for *Candida auris* infection.

The mortality rates for *Candida auris* are high, approaching 70% for those with candidemia, particularly for ICU patients. The overall crude in-hospital mortality rate from *Candida auris* infections is about 30%–60%. It is very likely that critical illnesses and immunocompromised status are major contributors to the high mortality rate of *Candida auris* infection.

The emergence of *Candida auris* advocates and amplifies the vigilance of early diagnosis and appropriate treatment of fungal infections. The problem will likely continue to evolve unless greater attention is given to measures to prevent and control the spread of resistant *Candida* spp. especially *Candida auris*.

Good standard infection control, including environmental cleaning, adequate cleaning and reprocessing of medical devices, and adequate capacity of microbiological laboratories, as well as sufficient capacity of healthcare facilities for patient isolation, are the basis for the prevention of transmission of any pathogen in healthcare settings.

The US Centers for Disease Control and Prevention (CDC) issued an extraordinary alert in June 2016 about the global emergence of invasive infections caused by *Candida auris* in healthcare facilities. In addition to the US CDC, also the European CDC released a rapid risk assessment and options for action to reduce the risk of transmission of *Candida auris* in healthcare settings.

In view of the rapid and widespread reports of cases and outbreaks *Candida auris* worldwide there is an urgent need to raise awareness of this emerging pathogen.

References

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