

LETTER TO THE EDITOR

**COVID-19 AND *Candida auris* CO-INFECTION:
AN INCREASING THREAT**

Dear Editor,

Candida auris has emerged in recent years as an important cause of hospital infection outbreaks around the world (Lockhart et al., 2017; Rossato & Colombo, 2018). *C. auris* is an intensive care unit (ICU) environmental colonizer and many hospital environments may harbor *C. auris* transmission (Chowdhary & Sharma, 2020). In 2020 all healthcare facilities had to adapt to accommodate increasing numbers of patients infected by Sars-Cov-2 (COVID-19). In addition, secondary infections were reported in 50% of COVID-19 deaths. Therefore, secondary infections or coinfections are a probable factor that affects mortality of critically ill patients with COVID-19 (Manohar et al., 2020; Rossato et al., 2020). Although rigorous infection control practices regarding COVID-19 transmission seemingly also prevent *C. auris* penetration in ICUs, results from previous viral outbreaks have shown significant increases in the rate of methicillin-resistant *Staphylococcus aureus* (MRSA) and Enterobacteriaceae acquisition (Yap et al., 2004). The cross-transmission of MRSA may be increasing, due to low compliance in following the guidelines for changing gloves and cleaning hands before and after contact with each infected patient, resulting in substantial contamination of the ICU environment (Yap et al., 2004). The main pathogens causing secondary infections in severe acute respiratory syndrome (SARS) patients have been diverse: Gram negative bacteria were the most common, then *Candida* was also frequently isolated (Zhou et al., 2020). Studies have shown that 9.3% of the hospitalized COVID-19 patients had at least one secondary infection (Ripa et al., 2021), although the data is still limited. As we face the worldwide spread of COVID-19, we need to consider the alarming increase in *C. auris* notifications. In July 2020, the Florida Department of Health was notified regarding three *C. auris* bloodstream infections and one urinary tract infection in four patients with COVID-19 who received care in the same COVID-19 unit of an intensive care hospital (Prestel et al., 2021). In December 2020, the

Luana Rossato

Federal University Grande Dourados, Faculty of Health Sciences, Rodovia Dourados, Itahum km 12, Cidade Universitária, CEP 79804-970, Dourados, Mato Grosso do Sul, Brazil. E-mail: luana.farma@hotmail.com

Orcid: orcid.org/0000-0002-6115-3313

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first culture from a central venous catheter tip from a patient hospitalized in a tertiary hospital from Salvador-Bahia State, Brazil presented yeasts growths identified as *C. auris*. Firstly by the Vitek 2 automated system (bioMérieux, Marcy l'Étoile, France), then confirmed by MALDI-TOF mass spectrometry and ITS rDNA sequence (de Almeida et al., 2021). In addition, in 2020, other countries - Guatemala, Mexico, Peru, Panama, Colombia and the United States - documented cases of *C. auris* infection, mostly in patients with a history of COVID-19 infection, highlighting that in the first three countries no isolates were reported prior to this period. Therefore, it is noteworthy that both COVID-19 and *C. auris* share at least six characteristics that should be highlighted: a) both pathogens may remain on surfaces, including hospital floors, beds, bedrails, poles, air conditioners and windows (Ong et al., 2020); b) both may present high mortality rates; c) both pathogens require standard laboratory methods for diagnosis; d) both present treatment difficulties due to multidrug resistance (*C. auris*) or no effective medical therapy (SARS-Cov-2); e) both are globally distributed causing outbreaks in healthcare facilities; f) both present risk factors, including in cases of mechanical ventilation, *diabetes mellitus*, protracted ventilator-assisted management, immunosuppression, chronic kidney disease, etc. There is much to be learned about these infectious diseases, particularly in countries with poor hygiene, high population density and intense migratory flows, not to mention international travel contributing substantially to both pandemics. Vigilance practices by hospital committees for infection control and routine diagnostic processes for determining *C. auris* fungal infection in COVID-19 patients should be implemented. Modern diagnostic tests must be made available worldwide, as well as access to adequate antifungal therapy to manage *C. auris* infection. All of the aspects mentioned will effectively contribute to reducing mortality by COVID-19 and enable monitoring the emergence of *C. auris*.

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Luana Rossato

Federal University Grande Dourados