

## Infection Prevention 2021: Candida auris co-infection in critical care COVID-19 patients in Saudi Arabia, a single center case-control evaluation- Nahid Batarf, Aldiriyah Hospital, Saudi Arabia

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### Abstract

Introduction Candida auris, since its first isolation in 2009, is being considered an emerging fungal pathogen and a global health threat. Recently there has been growing concern regarding drug resistance, difficulty in identification, as well as problems with eradication. Invasive candida infections or candidemia causes increased morbidity and mortality. Knowing that, multiresistant candida, such as C. Auris can cause challenges in diagnosis and treatment potentiating the risk of death. During pandemics, short of supply of personal protective equipment (PPE) as well as overcrowded hospitals have led to breaches in infection control practices, leading to outbreaks of multi-drug resistant organisms, including C. Auris. Although outbreaks have been reported throughout the other hospitals in the region no previous reports on C. Auris - COVID-19 co-infections and its effect on patient's outcome. Research Problem During the current COVID-19 pandemic, coinciding with the increasing expansion of ICU COVID-19 patients, no nosocomial spread of multi-resistant pathogens like Candida Auris is a potential infection control threat. Identification of the potential source and assess the impact of interventions provided is vitally needed. In our institute, we had couple of patients with culture positive for C. Auris resulting in an outbreak. Recognizing the factors associated with poor patients' outcome is necessary. Research Objectives Primary objective: To investigate the incidence of Candida Auris infection or colonization among hospitalized ICU patients who had a laboratory- confirmed COVID-19 infection, between June 2020 to May 2021.

Secondary objective: Identify the demographic and clinical features associated with poor outcome in the same patients' group compared to control cases. Design: Chart review, single-center, retrospective 1:3 case-control study. Cases with positive culture for Candida Auris will be matched in 1:3 ratio to control cases with no C. Auris in terms of 1) gender 2) the age range of 10 years 3) date of admission range of 7 days. Setting: This study will be performed in the COVID-19 units in the intensive care department of a newly established public hospital in Riyadh, Saudi Arabia. These units were established in the response to increasing critical care demand during the peak of COVID-19 cases in the country. Cases in this unit are received from other hospital and are only accepted if they had laboratory confirmed COVID-19 infection prior to transfer with the need to critical care services. The 60-bed department consisted of three separate critical care wards (Burn unit, CCU and MICU) each prepared with 20 beds. The three COVID-19 units were equipped with all the necessary personal protective equipment (PPE).

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