A study of the ecology, evolution and resistance mechanism of Candida auris at a tertiary care center in North India

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Aim: To study the ecology, evolution, and resistance mechanisms of Candida auris, using samples from patients, healthcare workers, environmental surfaces, and medical devices.

Methods: A total of 720 samples were screened for C. auris, including clinical samples from patients (tissue, body fluids), surgical site samples from patients (endotracheal tubes, wounds), and environmental samples (soil, water). The samples were cultured on Sabouraud Dextrose agar (SDA) and CHROMagar. Colonies morphologically suggestive of C. auris were identified by Matrix Assisted Laser Desorption Ionization-Time of Flight (MALDI-TOF) and were subjected to antifungal susceptibility testing (AST).

Antifungal susceptibility testing (AST): The minimum inhibitory concentration (MIC) was determined by the micro-dilution method. The MICs were interpreted using the Clinical and Laboratory Standards Institute (CLSI) breakpoints.

Results: Of the 720 samples, C. auris was isolated from 99 samples, including 57 from routine patient samples, 126 from environmental surfaces, and 166 from samples from healthcare workers. C. auris was not isolated from any environmental samples or hospital surfaces.

Discussion: The high rate of occurrence of C. auris infections in the hospital environment indicates the need for targeted interventions to prevent the spread of this pathogen.