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Mycology: Fungal infections

Evaluation of species distribution of yeasts isolated from clinical samples at a tertiary care teaching hospital, Riyadh, Saudi Arabia

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Objective: The species distribution of yeast isolates varies between countries, regions, and institutions. The aim of this study was to evaluate the distribution of yeast clinical isolates at a university hospital, Riyadh, Saudi Arabia.

Methods: This is a retrospective study to determine the distribution of yeast isolated from clinical samples received at clinical mycology laboratory, King Khalid University Hospital over a period of four years (2010 to 2013). Yeast like fungi were isolated from the various clinical specimens including blood, respiratory specimen, urine, tissues, swabs, CSF and other body fluids. Repeated samples were excluded. All the isolates were identified to species level by the germ tube test, Cornmeal medium and carbohydrate assimilation profile using the API ID20C yeast identification system.

Results: Yeast like fungi were isolated from 6366 clinical specimens. These samples were received from Intensive Care Units (20.8%), Internal Medicine (23.6%), Obstetrics and Gynecology (24.8%), family medicine (16.9), emergency medicine (7.5%), Surgery (4.3%), and other hospital departments (2.1%).

The specimens consisted of 260 (3.7 %) blood culture, 143 (2%) tissue, 990(14.2%) respiratory specimen, 2130 (30.5%) urine, 2498(35.7%) HVS, 241(3.5%) other swabs, and 534 (7.6%) nail samples and 2.8% other clinical samples.

The isolated yeast strains were 51.4% *C. albicans*, 21.6% *C. glabrata*, 13.2% *C. tropicalis*, 1.8% *C. parapsilosis*, 2% *C. krusei*, whilst *C. dubliniensis*, *C. kefyr*, and *C. lusitaniae* prevalence was 0.5% each. Other *Candida* species was 5.9% and 2.6% of isolates were other yeast species.

C. albicans was the most common species isolated from all hospital departments followed by *C. glabrata* and then *C. tropicalis*. *C. albicans* was isolated from 62.2% of tissues, 59.4% of respiratory samples, 64.3% of swabs, 51.8% of body fluids, and 36.6% of urine. Non-*albicans* *Candida* species accounted for 68% of all candidemia cases. *C. glabrata* was isolated at a higher rate from blood (30.4%), urine (26.6%), and HVS (22.4%).

Conclusion: Different yeast species were isolated, but *C. albicans* was the most common isolate obtained from all the clinical samples. The rate *C. parapsilosis* was lower than expected. There was a predominance of non-*albicans* *Candida* species as a cause of candidemia.