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Isolation and identification of predominant bacterial isolates infecting urinary tract

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In this study, bacterial isolates of the most common urinary tract infection of 100 patients were investigated. Patients comprised of equal gender and 50 patients were above 40 y/o and 50 were under 40 y/o. Only 55 patients were infected of whom 63.6% females and 36.4% males, and among them, 66% were above 40 y/o, and 44% were under 40 y/o. The dipstick test revealed 24% were positive for leukocytes, 13% were positive for nitrite, 14% were positive for both leukocyte and nitrite. Phase contrast microscopy revealed 15% were positive for pyuria, and 34% were positive for bacteriuria. Morphological description leukocytosis and bacteriuria colonies have grown on cultured on MacConkey and Blood agar plates were achieved, where 64 bacterial strains and four fungal strains were identified. Based on Gram staining and cell shapes, isolates were grouped into three categories; Gram (+) cocci, Gram (-) coccobacilli, and Gram (-) bacilli, and analyzed using SYSTAT® program. Following cluster analysis, a representative strain of each cluster was selected for identification using VITEK® system. Results showed eight groups of isolates; 28 *E. coli*, 9 *Klebsiella pneumonia, 6 Pseudomonas aeruginosa, 6 Proteus mirabilis, 5 Staphylococcus aureus, 4 Enterococcus faecalis, 4 Morganella morganii and 2 Pseudomonas fluorescens*. Large cells of *Candida albicans* were also identified. Results indicated that the most predominant uropathogenic was *E. coli* as it was found in 43.7% of the isolates followed by *Klebsiella Pneumonia* 14.1%. Both *Pseudomonas aeruginosa* and *Proteus mirabilis* were represented in 9.4% of the isolates while *Staphylococcus aureus* was recorded in 7.8% of the samples. *Enterococcus faecalis* and *Morganella morganii* were represented in 6.2% of the isolates, however, only 3.2% was recorded for *Pseudomonas fluorescens*.

Biography

Marwa M Elmaghrabi is currently a permanent researcher at Stem Cells and Tissue Culture Labs, Faculty of Medicine, Alexandria University, a healthcare and quality advisor at Canadian Academy of Sciences, Egypt. She has MSc in Microbiology (2012), Faculty of Science, Egypt. She accumulated 8-years of experience in quality and infection control, and appointed to a number of key jobs; ISO 9001:2015 Lead Auditor, quality manager (2015-2017) and quality and infection control manager (2013-2015) in Madina Fertility group, quality-specialist at Medical Research Institute, Alexandria University, 2015-2017, and senior quality assurance specialist and internal auditor at Hassab-Labs Company, 2010-2013. She participated in a number of regional and international conferences and as a member of Organizing Committee of Microbial Ecology-2018 pre-conference workshop. She contributed to PAN-African and electronic network project as a broadcasting lecturer. She served as a member of the Egyptian Syndicate of Scientific professions, and Arab QOSH of safety professionals' experts.

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