

## ANTIBIOTIC RESISTANCE THREATS IN PATIENTS WITH INDWELLING URINARY CATHETERS: BACTERIAL SPECTRUM, INFECTION RATES AND THE EMERGENCE OF MULTIDRUG RESISTANT AND EXTENSIVELY DRUG RESISTANT STRAINS

Milan B. Potić<sup>1,2</sup>, Aleksandar Skakić<sup>1,2</sup>, Miodrag Djordjević<sup>1,3</sup>

<sup>1</sup>University of Niš, Faculty of Medicine, Niš, Serbia

<sup>2</sup>Clinical Center Niš, Clinic of Urology, Niš, Serbia

<sup>3</sup>Clinical Center Niš, Clinic of Surgery, Niš, Serbia

*Kontakt:* Milan Potić  
48 Dr Zoran Djindjić Blvd., 18000 Niš, Serbia  
E-mail: milan.potic@medfak.ni.ac.rs

The extent of antimicrobial resistance has become a global threat and according to the World Health Organization latest reports on this issue, 21<sup>st</sup> century could mark the end of the antibiotic era. Catheter-associated urinary tract infections are the leading cause of healthcare-associated bacteremia and a major source of resistant gram-negative organisms. This paper focuses on antibacterial resistance of bacterial species isolated from the urine samples of bacteriuric patients. In this study we examined urine cultures of patients with indwelling urethral catheters hospitalized for operative treatment who are at a higher risk for the emergency due to difficult to eradicate pathogens. We assessed underlying primary health conditions, comorbidities and infection risk factors in an attempt to relate them with rates of resistance. The results of susceptibility testing among positive urine isolates revealed high rates of resistance to  $\beta$ -lactamase inhibitors, third-generation cephalosporins, fluoroquinolones and trimethoprim-sulfamethoxazole alongside with combined resistance to third-generation cephalosporins, fluoroquinolones and aminoglycosides. Multi-drug resistant strains were isolated regardless of clinically apparent symptoms and signs of the infection with catheterization duration being the dominant factor in comparison to the severity of primary disease and comorbidities. Administration of empirical therapy failed to address resistance patterns of detected pathogens. Catheterization due to strictly defined indications, reduction of catheter presence duration and choice of therapeutic agent in accordance with susceptibility testing are currently best available strategies both for prevention and therapy.

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**Key words:** urinary tract infection, indwelling urethral catheter, health-care acquired infection, multi-drug resistance, extended drug resistance