96 Prevalence and antibiotic susceptibility of bacterial uropathogens in obstetric patients of Moscow region

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Introduction & Objectives:
Urinary tract infections (UTI) are the most common bacterial infections in obstetric patients. A widespread use of antibiotics has led to the emergence of antibiotic resistant species. An up-to-date data on local prevalence and susceptibility profile of bacteria may help in tailoring the best antibacterial treatment. We aimed to analyse characteristics of uropathogens in obstetric patients diagnosed with asymptomatic bacteriuria, acute uncomplicated cystitis or acute ancomplicated pyelonephritis.

Materials & Methods: We included in the study 104 consecutive pregnant women diagnosed with uncomplicated UTI based on clinical presentation and/or culture result. All patients attended the clinic from January 2016 to December 2017. In all patients midstream urine culture results were positive with a diagnostic criteria of ≥10^5 Colony Forming Units (CFU) for asymptomatic bacteriuria (in two samples), ≥10^3 CFU for acute uncomplicated cystitis and ≥10^4 CFU for acute uncomplicated pyelonephritis. Susceptibility testing was performed in compliance with EUCAST criteria.

Results: 90 pregnant patients had asymptomatic bacteriuria, 10 had acute uncomplicated cystitis and 4 had acute uncomplicated pyelonephritis. The most frequently detected pathogens were E. coli (67.3%) and E. faecalis (50%). Overall Enterobacteriaceae strains were detected in 88.46% of patients. In E.coli strains resistance rates >20% were revealed to ampicillin (63.6%), amoxicillin / clavulanate (23.2%), trimethoprim / sulfamethoxazole (27.4%), nalidixic acid (20.7%), 2-nd generation cephalosporins (25.7%) and 3 generation cephalosporins (24.3%). Overall in Enterobacteriaceae strains resistance rates >20% were detected to ampicillin (70.1%), trimethoprim/sulfamethoxazole (24.4%) and 2-nd generation cephalosporins (21.7%). Antibiotic resistance of E.coli and all Enterobacteriaceae strains less than 10% only with respect to carbapenems (0% for both) and fosfomycin (1.5% and 3.5%, respectively).

Conclusions: Our data suggests that in pregnant women with uncomplicated UTIs there are high resistance rates of E.coli and Enterobacteriaceae strains to many of routinely used antibiotics. Enterobacteriaceae bacteria in obstetric UTIs are still highly susceptible to fosfomycin and carbapenems.