

The effectiveness of European guidelines recommended empirical antibiotic treatment of complicated urinary tract infection in Pauls Stradins Clinical University Hospital

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Introduction & Objectives: Urinary tract infection is the most common infection in urology practice, with approximately 150–250 million cases globally per year. Antibiotics are generally chosen as main therapy for these patients. Knowledge of local antibiotic resistance (AR) and application of appropriate empirical treatment are important predictors of success in management of patients with complicated UTI (cUTI). The Guidelines of European Association of Urology (EAU) recommend to use the combination of amoxicillin and an aminoglycoside, or 2nd / 3rd generation cephalosporin with an aminoglycoside intravenously as an empirical treatment of cUTI. Ciprofloxacin is allowed only in p/o empirical treatment of ambulatory patients, who have beta-lactam intolerance and do not require hospitalisation, provided that its local antibiotic resistance is < 10%. The objectives of this study were to determinate effectiveness of EAU recommended empirical treatment of cUTI in Pauls Stradins Clinical University hospital (PSCUH).

Materials & Methods: The retrospective study was performed in the PSCUH center of Urology. Information was gathered from medical histories of patients with cUTI. Patient selection criteria were as follows: 1) patients with microbiologic samples taken before initiation of antibacterial therapy; 2) patients with positive microbiological sample. Patients with negative microbiologic samples were excluded from this study. Statistical analysis performed with IBM SPSS v22.0 software.

Results: One hundred-fifty patients were included in the study, 68 (45,3%) men and 82 (54,7%) women. Mean age of men and women was 65.0±14.9 and 52.6±22.1 years, respectively. Three most commonly isolated bacteria were *E. coli* (61.3%), *E. faecalis* (18.7%), *Kl. pneumonia* (12.0%).

The highest AR was to Ampicillin (54.4%), but the least to Imipenem and Meropenem (0%). The AR of the most frequently used drugs for cUTI treatment in PSCUH was as follows: Ciprofloxacin 29.5% and Amoxicillin/clavulanic ac. 19.0%. The AR of drugs that are recommended for empirical treatment was: Gentamicin 16.6%, Amikacin 0.8%, Cefotaxime 12.4% and Ceftazidime 13.3%.

Conclusions: · After consideration of local AR, EAU recommended empirical treatment of cUTI is still considered as an effective approach in management of these patients.

- Due to its high AR Ciprofloxacin (29.5%) and Amoxicillin/clavulanic ac. (19.0%) are not recommended for empirical treatment of cUTI.
- Local AR must be re-evaluated to follow the latest trends in AR progression.