



Compliance of clinical practice with guidelines on prophylactic antibiotic use in urologic cancer surgery

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INTRODUCTION

The prophylactic use of antibiotics in urologic surgery is guided by several guidelines, as Guidelines of the European (EAU) and American Association of Urology (AUA), and of the American Society of Health-System Pharmacists (ASHP). EAU Guideline, favors the use of generation 2/3 cephalosporins and aminopenicillins/beta lactamase inhibitor, it emphasizes that specific antimicrobial should be chosen based on pathogen prevalence, antibiotic susceptibility and virulence. Stringent regulatory conditions regarding the use of fluoroquinolones are implemented by the European Commission, resulting in the suspension of the indication for peri-operative antibiotic prophylaxis. AUA/ASHP guidelines are more permissive to fluoroquinolones, depending on the resistance of the setting. All guidelines are univocal in limiting antibiotic exposure, unless indications of infection exist. The aim of this work was to assess the compliance of urological clinical practice to existing guidelines, both in duration and selection of antibiotics.

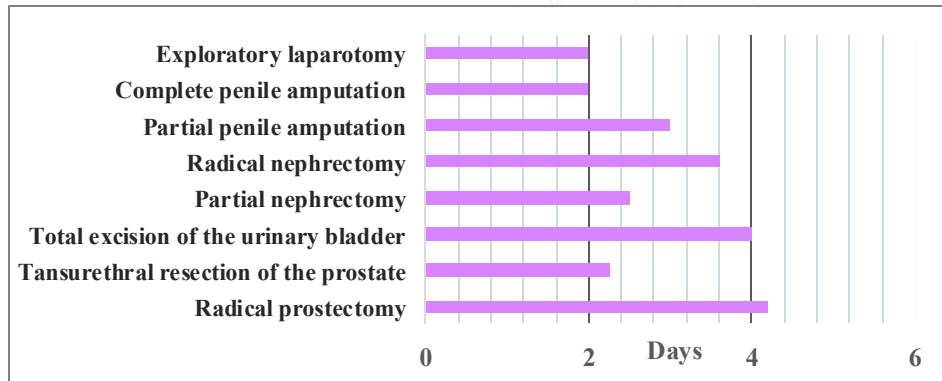


Fig. 1. Average duration of antibiotic prophylaxis in various urological procedures

MATERIALS AND METHODS

From the official patient database (Venicom software), 31 patients of the PHI University Clinic of Urology in Skopje who underwent various types of urological cancer surgery were identified. Antimicrobial administration, class and duration of peri-procedural prophylaxis were extracted.

Table 1. Types of antibiotics used for prophylactic and treatment purposes.

Administered for prophylaxis	Patients (%)	Administered for treatment	Patients (%)
Ceftriaxone	70.97	Ceftriaxone + Metronidazole	9.68
Ciprofloxacin	19.35	Ceftriaxone + Ciprofloxacin	16.13
Ceftriaxone + Metronidazole	9.68	Ciprofloxacin + Ceftriaxone	3.22

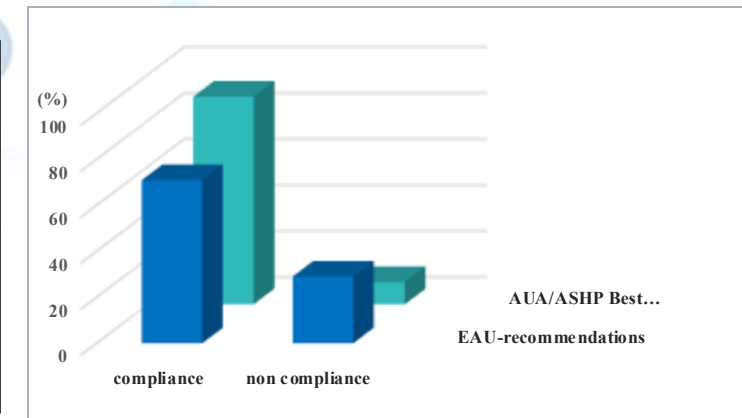


Fig. 2. Compliance with the guidelines for prophylactic antibiotic use.

RESULTS

Most used antibiotics were 3rd generation cephalosporins, followed by fluoroquinolones as single-therapy regimens, while the patients with detected post-surgery infection, received combination treatment (Table 1). Therefore, the compliance with the guidelines was 70.97% and 90.32 % for EAU and AUA/ASHP respectively (Figure 2). The average prophylaxis duration varied depending on the applied procedure, ranging from 2 days to 4.2 days for radical prostatectomy (Figure 1).

CONCLUSION

The results obtained are in line with a reported real-world (non-)adherence, pointing that in interpreting the compliance with the guidelines, other factors must be considered as well. In this line, clinical pharmacists hold a pivotal role in implementation of the current guidelines in (urological) surgery by optimizing antibiotic treatment, dose adjustment, prevention of polypharmacy-related interactions, but also promoting evidence-based prophylaxis and rationale use of antibiotics.