



Antimicrobial Resistance and Urinary Tract Infections: Biggest Threats

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In 2013, CDC (Centers for Disease Control and Prevention) published a report outlining the top 18 drug-resistant threats to the United States. These threats were categorized based on level of concern: urgent, serious, and concerning. In general, threats assigned to the urgent and serious categories require more monitoring and prevention activities, whereas the threats in the concerning category require less [1]. Carbapenem-resistant Enterobacteriaceae (CRE) bacteria are one of the three urgent threats and on the rise among patients in medical facilities. CRE have become resistant to all or nearly all the antibiotics we have today. Almost half of hospital patients who get bloodstream infections from CRE bacteria die from the infection.

Urinary tract infection (UTI) due to *Escherichia coli* and other types of bacteria can develop resistance, which allows them to release an enzyme called extended spectrum β -lactamase (ESBL), which breaks down many types of antibiotics used to treat a UTI and renders them inactive.

There is a high prevalence of ESBL-positive isolates among community-acquired infections in South Korea. In this study, the overall prevalence of ESBL-producing microorganism was 12.6% and the risk appeared to be increased in cases with a previous hospitalization, a recent history of urinary catheterization, inpatient status, cefaclor medication, cefminox administration, and female gender [2].

Within a relatively short period of time after the first antimicrobial drugs were introduced, bacteria began exhibiting varying degrees of resistance. The excessive use

(and abuse) of antibiotics has played a critical causative role in the development of antibiotic resistance, which is now recognized as a global public health threat including Korea. The current situation of resistance to antibiotics has reached a serious point in UTI, and presently, multidrug-resistant bacteria including ESBL-producing bacteria can be readily encountered in clinics.

In the present issue of the *Urogenital Tract Infection*, 2 interesting articles associated with antimicrobial resistance and UTI were included. The first article, titled “2017 Guidelines of The Korean Association of Urogenital Tract Infection and Inflammation: Acute Uncomplicated Cystitis,” provided important information required for choice of antibiotics in one of the most common UTI [3].

The second article, titled “Recent Antimicrobial Susceptibilities for Uropathogenic *Escherichia coli* in Patients with Community Acquired Urinary Tract Infections: A Multicenter Study,” demonstrated that ESBL was biggest and urgent problem [4].

To prevent the spread of multidrug-resistant microorganisms, especially ESBL-producing species in UTI, medical institutions should make efforts to develop administrative and educational programs and to provide appropriate guidelines for the prescription of antibiotics as well as urinary catheterization and to follow this guidelines in UTI strictly. And also, early identification of patients at high-risk of infection with ESBL-producing microorganisms should help to optimize initial antibiotic treatment strategies for severe

UTI in Korea.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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