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Trends in gram negative antimicrobial resistance and implications on urology practice

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For many years, resistance profiles for many of the Gram-negative pathogens were relatively stable. However, the past few decades have seen a significant global upsurge in antimicrobial resistance particularly among Enterobacteriaceae. Worldwide, the prevalence of extended-spectrum β -lactamase (ESBL)-producing Enterobacteriaceae is increasing, and these organisms are frequently resistant to many other key antibiotics such as fluoroquinolones and aminoglycosides. Carbapenem-producing Gram negative bacteria are an emerging threat, leaving few treatment options. UTIs are among the most common types of infections in urology practice, with approximately 150–250 million cases globally per year. Owing to their high prevalence, UTIs are a major contributor to global antibiotic use and resistance. Increasing antimicrobial resistance represents a challenge to urologic practice and without effective antibiotics active against common uropathogens, many urologic procedures would carry excessive risk. Although new antibiotics with activity against Gram-negative bacteria, including activity against strains with highly resistant phenotypes, are now available and some more might be available in the near future, they are likely to be used as last resort, owing to their high cost. Furthermore, it is unlikely that any single agent would be effective against the great diversity of resistance we are currently facing. This presentation will summarise the mechanisms of resistance, the current European resistance trends of Gram-negative uropathogens, examine the effect of resistance on common urology procedures, and discuss key antibiotic options in the era of resistance.

Biography

Hala Kandil is a Consultant Microbiologist at West Hertfordshire Hospitals NHS Trust, UK. She graduated from Medical School, University of Alexandria, Egypt. She began her career in Immunology and obtained MSc, MD and PhD in Clinical Immunology from Imperial College, London University in 2004. After 10 years' career in Immunology, she received her Microbiology specialist training at Royal Free London NHS Foundation Trust and obtained her MSc in 2009 in Microbiology from Queen Mary University and FRCPath in Medical Microbiology and Virology in 2010, Royal College of Pathologist, UK. She was appointed as Microbiology Consultant at Royal Free London NHS Foundation Trust then at East and North Hertfordshire NHS Trust, where she was the Lead of Microbiology service provision for the Nephrology departments. She also has interest in diabetic foot infections, outpatient antimicrobial therapy (OPAT) and antimicrobial stewardship. She is currently the Antimicrobial and OPAT Lead and the Lead of Diabetic Foot Infections at West Hertfordshire Hospitals NHS Trust.

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