



Submission No.: CS06-01

Session : Concurrent Symposium 6 (Infection)

Date & Time, Place : November 17 (Fri), 15:10-16:40, Room 6F-2

Session Title : Updated prophylaxis for Infection

How to optimize antibacterial regimen during transplantation

Sang Il Kim

The Catholic University of Korea, Seoul St. Mary's Hospital, Republic of Korea

Antibiotics are essential medication to control the bacterial infection. There are hundreds of different types of antibiotics, but most of them that are commonly used in transplant fields can be classified into 8 groups. Penicillin and penicillin derivatives are widely used for gram-positive bacteria, gram-negatives and some anaerobes. Others are cephalosporins, carbapenems aminoglycosides, fluoroquinolones, macrolides, tetracyclines and sulfonamide. Each class has different characteristics of anti-bacterial spectrum, pharmacokinetics/pharmacodynamics, specific indications, and adverse effects. Appropriate use of antibiotics related directly with patients' survival, emerging resistant bacteria, and medical and social cost. Currently, multidrug-resistant bacteria such as carbapenems-resistant enterobacteriaceae are global threat to healthcare system and transplant recipients.

The concept of antibiotic therapy classified into prophylaxis (prevention), pre-emptive, empiric, and targeted therapy. Trimethoprim/sulfamethoxazole is commonly used prophylactic regimen for pneumocystis and urinary tract infection. Cephalosporins, penicillin derivatives with or without glycopeptide are used for prevention of surgical infection during short peri-transplant period. In case of any sign or symptoms of infection after transplantation, antibiotic therapy applied empirically according to hospital specific epidemiologic data and patients' condition. Cultures should be made before administration of antibiotics to identify the true pathogen and to target the antibiotic therapy. To decide antibacterial regimens, we should consider possible site of infection, PK/PD of each antibiotics, epidemiologic data that include common pathogens of each transplant centers, and colonizers of the patients. Further, we should consider patient's risk factors, epidemiologic exposures to multi-drug resistant microorganisms, and resistant patterns of each hospital or community. During antibacterial therapy, carefully supervised infection control policy and procedure can support improved post-transplant morbidity.

To optimize antibacterial regimen, establish a strategy based on infection related epidemiologic data of each transplant center, resistant patterns of bacteria, and center specific medical and surgical process during transplantation. Adjusted antibiotic stewardship program especially focused on organ transplant recipients might be an effective tool to optimize antibiotic regimen. Tactics can be made from harmonized collaboration with surgeons, physicians, nurses, pharmacist, microbiologists and infection control team.