

**Conclusions:** Repeated and updated educations on antibiotics would encourage clinicians to prescribe antibiotic prudently. Meanwhile, the comprehension and acceptability of clinicians are pivotal to antibiotic stewardship, especially in ICU, that could be facilitated by continuous communication between antibiotic prescribers and auditors.

#### PS 2-303

##### CEFEPIME USE APPROPRIATELY ASSESSMENT WITH CREATININE CLEARANCE

Chia-ying Wu<sup>a</sup>, Hui-Hsia Hsieh<sup>b</sup>, Tien-Yuan Wu<sup>b</sup>, Yung-Ta Lin<sup>b</sup>, Chi-Hua Chen<sup>c</sup>.<sup>a</sup>Pharmaceutical Division, Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; <sup>b</sup>Clinical Pharmacy Division, Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; <sup>c</sup>Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

**Purpose:** Cefepime is the most effective 4th generation cephalosporin possessing high intrinsic potency due to rapid penetration into the peri-plasmic space and extended spectrum including Gram-positive and Gram-negative organisms over the 3rd generation cephalosporins. Since its high resistance against beta-lactamase, Cefepime (Maxipime<sup>®</sup>) is the best choice for life threatening nosocomial infections occurring in patients in the intensive care units. The purpose of the present study was to evaluate appropriate of Cefepime using retrospectively.

**Methods:** The data were collected from patient taking Cefepime from 2014/04/01 to 2014/06/30 in the hospital wards. Seventy-five cases administrating Cefepime routinely were included into this study. The criteria for assessing the reasonableness use of Cefepime were indications, doses, bacterial cultures, and dose adjusting with patients' renal function accordingly. Cockcroft and Gault Equation was used to calculate patients' creatinine clearance (CrCl) for renal function monitoring and safety. Therefore, we estimated antibiotics dose adjustment depending on CrCl. This study was performed by descriptive statistic.

**Results:** The average age of patients is  $66 \pm 19.1$ . There were 23 (30.7%) patients whose cultures were *Pseudomonas aeruginosa*; 14 (18.7%) were *Staphylococcus aureus*; 14 (18.7%) were *Escherichia coli*; 13 (17.3%) were *Klebsiella pneumoniae*. For the diagnosis, 48 of 75 (64%) were pneumonia. Sixty-seven (89.3%) patients were administered Cefepime reasonably. Seven (9.3%) patients used as empirical therapy with culture growth nothing. There were 46 (61.3%) patients who were monitored renal function and adjusted doses depending on CrCl; however, there were 29 (38.6%) patients whose renal function were abnormal but no adjustment.

**Conclusions:** Physicians can check patients' CrCl on the hospital health information system. This study could provide the Department of Infectious Control as a reference to establish a notice for the attending physicians to adjust Cefepime doses according to patients' physical conditions. Furthermore, the results of this study can provide more efficient and safety medication therapy.

#### PS 2-304

##### ANTIFUNGAL CONSUMPTION UNDER ANTIBIOTIC STEWARDSHIP PROGRAM

Wen-Liang Lin<sup>a</sup>, Wen-Chien Ko<sup>b</sup>, Pheng-Ying Yeh<sup>a</sup>, Hui-Jen Chang<sup>a</sup>, Ching-Chuan Liu<sup>c</sup>.<sup>a</sup>Department of Pharmacy, National Cheng Kung University Hospital, Taiwan; <sup>b</sup>Department of Internal Medicine, National Cheng Kung University Hospital, Taiwan; <sup>c</sup>Department of Pediatrics, National Cheng Kung University Hospital, Taiwan

**Purpose:** Antibiotic stewardship programs are increasingly adopted as standard of practice. Utilization of antibiotics are usually audited by defined daily dose (DDD)/inpatient days (DID). Though antibiotic use pose risk of fungal infection, the association between antibiotic and antifungal use has not been well investigated. The study aim to explore the correlation between DID consumption of antibiotic and antifungal agents under antimicrobial stewardship program.

**Methods:** The study was conducted in a medical center in southern Taiwan. Antimicrobial stewardship program ensued in 2003. Annual DID consumption of systemic antifungals and broad spectrum antibiotics (3rd and 4th generation cephalosporin, fluoroquinolone, glycopeptide, piperacillin/tazobactam,

carbapenem) from 2009 to 2013, density of healthcare associated extended spectrum beta lactamase (HA-ESBL) and fungal infections were included into analysis. The primary outcome was the correlation between DID of antifungals and broad spectrum antibiotics. Pearson correlation coefficient statistics were used to compare variables between groups.

**Results:** Annual antifungal DID range from 33.4 to 50.3 and fluconazole accounted for 80%. Total antifungal DID was highly correlated with 3rd generation cephalosporin, glycopeptide, piperacillin/tazobactam and carbapenem ( $r: 0.74$  to  $0.8$ ). The combined DID of aforementioned antibiotics resulted in even higher correlation ( $r = 0.95$ ). Fluconazole consumption correlated well with the same groups of antibiotic. HA fungal infection density correlated well with antifungal DID and HA-ESBL density ( $r = 0.84$  and  $0.93$ ).

**Conclusions:** DID consumption of antifungals were highly correlated with certain broad spectrum antibiotics. We recommend auditing antifungal DID into antimicrobial stewardship programs for timely intervention to promote appropriate use.

#### PS 2-305

##### STRATEGIES FOR IMPROVING ANTIBIOTIC MANAGEMENT IN HOSPITAL: A SURVEY OF MEDICAL TECHNOLOGIST'S PERCEPTIONS AND EXPERIENCES

Yu-Hong Tsai<sup>a</sup>, Feng-Yi Chuang<sup>a</sup>, Hui-Ru Chuang<sup>a</sup>, Tsung-Yu Huang<sup>b</sup>, Lin-lin Pan<sup>a</sup>.<sup>a</sup>Department of Laboratory Medicine, Chang Gung Memorial Hospital, Chiayi, Taiwan; <sup>b</sup>Department of Infectious Diseases, Chang Gung Memorial Hospital, Chiayi, Taiwan

**Purpose:** Antimicrobial abuse associated resistance isolates have become a potential global threat to patient safety. In order to reduce the mortality and readmission rates of patients in hospitals, antimicrobial stewardship management were implemented to improve the quality of medical care. The antimicrobial stewardship programs (ASPs) in hospitals worldwide have been shown to optimize the treatment of infections in patients significantly and reduce adverse events associated with antibiotic misuse.

**Methods:** Several laboratory-driven strategies were performed in our hospital to improve antibiotic use. First, we used computer-assisted management programs such as SAS (Statistical Analysis System) and WHONET to provide prompt and useful antibiotic resistance reports, known as the antibiogram monthly. The data from January 2013 to January 2014 was analyzed. The prompt intervention is performed following receiving the information from laboratory.

**Results:** The ratio of carbapenem-resistant isolates such as *Klebsiella pneumoniae* and *Pseudomonas aeruginosa* were decreased from 11.1% to 8.3% (2.9%) and 13.6 to 12.2% (1.4%), respectively. The prevalence of vancomycin-resistant *Enterococcus faecium* were 4.3% reduced from 17.3% to 13%. Moreover, the useful comments about antimicrobial use of infectious isolates were available on testing report to avoid antibiotic abuse and reduce medical costs. The 1% reduction in carbapenems consumption in defined daily doses was observed. Finally, we educated clinicians and nurses about specimen collection to reduce the rejection and contamination ratio of specimen from patients. The contamination ratio of blood culture and sputum culture was 0.9% and 1.55% decreased.

**Conclusions:** In summary, antimicrobial stewardship programs is essential for antibiotic management in hospital. The continued surveillance of resistance isolates should be performed in the future.

#### PS 2-306

##### ELEVATE CORRECT PERCENTAGE OF SURGICAL PROPHYLACTIC ANTIBIOTIC USAGE BY EDUCATION AND COMPUTER ASSISTANCE – EXPERIENCE OF A MEDICAL CENTER IN CENTRAL TAIWAN.

Pei-Hsuan Huang<sup>c</sup>, Hui-Meil Huang<sup>b</sup>, Zhi-Yuan Shi<sup>a</sup>, Wei-Pin Lai<sup>d</sup>, Sz-Rung Huang<sup>a</sup>.<sup>a</sup>Section of Infection Disease, Department of Internal Medicine, Taichung Veterans General Hospital, Taiwan; <sup>b</sup>Nursing Department, Taichung Veterans General Hospital, Taiwan; <sup>c</sup>Department of Infection Control, Taichung Veterans General Hospital, Taiwan; <sup>d</sup>Computer & Communications Center, Taichung Veterans General Hospital, Taiwan

**Purpose:** Published articles support that appropriate prescription of surgical prophylactic antibiotics could reduce post-operative skin soft tissue infections (SSTIs). However, over using antibiotics may induce unexpected colonizing bacteria and increase medical cost. the aim of the study is to