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

CEFEPI ME USE APPROPRIATELY ASSESSMENT WITH CREATININE CLEARANCE

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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®) 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 2014/01/01 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 ± 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

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Purpose: Antimicrobial 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 antifungal 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

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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 antibioticgram 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.

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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...
elevate correct percentage of surgical prophylactic antibiotic usage by educa-
tion and computer assistance.

**Methods:** In this study, we made two interventions. First, we educated sur-
geon regarding pharmacistics of infliximab antibiotic usage that current infection control
allows. Four points we educated including to make sure a clean-
contaminated surgery, to adjust dosage after checking estimated CCr , to
prescribe first dose in one hour before surgery, and to prescribe a bolus
dose each 4 hours after operation starts. A standard operation procedure-
SOP was established after our education. Second, we made a computer sys-
tem to monitor antibiotic-prescribing condition. The coputer system can
inform surgeons of patients body weight and updated surem Cr level. Our
infection control nurses could easily get the operation starting time, oper-
ated duration, and antibiotic prescribing record of each case. We sent a
feed-back note when incorrect usage was found. We prepared cefazolin in
operation rooms to make sure a 2nd dose could be given immediately when

**Results:** After our intervention, correct cefazolin prescription of body
weight reached 94.3% (2011) and 96.2% (2012), correct first dose prescription
reached 93.8% (2011) and 95.4% (2012), and correct bonus dose prescription
in cardiovascular surgery reached 91.5% (2011) and 98.1% (2012).

**Conclusions:** Education, feedback and monitoring by information systems
can enhance the use of prophylactic antibiotics by surgeons, and reporting
and analysis of date. In the future, we wish to design a computer auto-sta-
tistic system to offer a real-time condition of prophylactic antibiotic usage.

**Keywords:** Alcaligenes xylosoxidans, distribution, antibiotic susceptibility

**A SURVEY ANTIBIOTIC EDUCATIONAL INTERVENTION**

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**Purpose:** The knowledge and attitude of the public toward the use of anti-
biotics are the key factors influencing the antibiotics prescription and the
consequence regarding the afterward antibiotics resistance.

**Methods** The intervention of antibiotics education is an event to deliver the
correct knowledge regarding the appropriate use of antibiotics in order to
reduce the possibility of antibiotics resistance.

**Results** participants still prefer to take their antibiotics by the ways rather
than followed the doctors’ prescription, mostly because they didn’t realize
the important consequence of antibiotics resistance.

**Conclusions:** Also, it was suggested that a suitable way to deliver the correct
knowledge regarding the use of antibiotics to the public is still an issue of
concern to the authority.

**THE STRATEGY OF PIPERACILLIN-TAZOBACTAM USE FOR 11 YEARS IN A
TERTIARY HOSPITAL IN TAIWAN**

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**Purpose:** Piperacillin-tazobactam (pip/tazo) is one of the most important
antibiotics used in severe infection diseases. The amount of pip/tazo use
increased in our hospital after we decreased the usage of third generation
cephalosporins since 2004. This study aimed to present the strategy of
increasing pip/tazo use with maintenance of its susceptibility.

**Methods** Taipei medical university hospital is a university-affiliated tertiary
hospital in northern Taiwan. During 2003 to 2013, we decreased usage of
third generation cephalosporins, and use the pip/tazo as the first choice
of hospital-acquired infection instead of ceftazidime. The pip/tazo changed
from brand drug to generic drug since August 2007 in our hospital. We
started the dosing strategy of extended infusion of pip/tazo in intensive
care units since November 2008. The dosing strategy extended to the whole
hospital since 2011. The resistance of hospital-acquired *P. aeruginosa* to pip/
tazo was collected by infection control department every six months.

**Results:** We tracked the number of outpatients with upper respiratory tract
infections who use of antibiotics were 313 pen during the period of 103/5/16 -
103/10/16 , abnormal ratio decreased from 5.29% to 0%, and the account-
ing rate of outpatient antibiotic prescriptions from 6.1% in April of 103
decreased to 5.6% in September of 103.

**Conclusions:** We build standardize “Exception handling process for outpa-
tient upper respiratory infection antibiotic use,” as monitoring indicators
continued to track for the rational use of antibiotics.

**AN EIGHT-YEAR STUDY ON DISTRIBUTION AND SUSCEPTIBILITY OF
ALCALIGENES XYLOSOXIDANS IN A CITY HOSPITAL OF CHINA**

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**Purpose:** To make clear the distribution and susceptibility tendency of local
strains, an eight-year study on *A.xylosoxidans* in our hospital was carried out.

**Methods:** 254 *A.xylosoxidans* strains were isolated from 89 patients in our
hospital from 2006 to 2014. Strains isolated from the patients at the first
time were used in the study. Distribution of the 89 *A.xylosoxidans* strains
based on wards, clinical sources and time was calculated. Susceptibility to
15 antibiotics was tested by the disk diffusion method. Susceptible, interme-
diate susceptible and resistant rate was evaluated respectively.

**Results:** Results showed that, the cases of *A.xylosoxidans* infections
declined from 63 to 26 the recent four years compared with that before
2010. The highest number of *A.xylosoxidans* infections was observed in res-
piratory medicine ward before 2010 and after 2010 the cadre ward of health
protection became the most important ward that *A.xylosoxidans* infected.
Sputum was always the main specimen from 2006 till now. Susceptibility
test results indicated all the tested antibiotics were resisted by some *A.xylo-
soxidans* strains. Resistance rate of gentamicin, amikacin, aztreonam, cefe-
pime and cefotaxime were list the first five and it over 90% during 2006-
2010, but that of cefepime declined to 70.6% after 2010. Occurrence and
resistance rate decreased from 2010, which may attribute to reasonable
application of antibiotic agents and effective control of hospital infection.

**Conclusions:** In our hospital, *A.xylosoxidans* infections were infrequent and
the incidence has decreased in recent years. These may due to the effective
control on hospital infection. Furthermore, drug resistance of *A.xylosoxidans*
decreased after 2010, which may attribute to rational application of anti-
biotic in clinic.

**Keywords:** Alcaligenes xylosoxidans, distribution, antibiotic susceptibility