

infection. We use environmental clean project to improve healthcare-associated infection in the hospital.

Methods: The infection rate of critical patients is relatively higher because of their poor immunity and invasive procedures of treatment. In 2012, 2 of top 5 ward with high resistant area are MICU and RICU. Therefore, we choose these two units to join this project-"Introduction of disposable cleaning wipers". We collected the sample at the time of before introduction and after introduction of disposable cleaning wipers; comparing ATP and Bacterial culture (Qualitative) results.

Results: The ideal rate of ATP pretest is increasing from 27.5% to 39.5%, the result shows the environment cleanness level improved even before wiping; Re-education to housekeeping staff and introducing disposable cleaning wipers, 8 weeks later, ATP ideal rate improved from 55% to 65.8%.

Conclusions: It showed the cleaning wipers work is effectively in decreasing strains colonization and causing infection.

PS 1-072

DELAYED VERSUS IMMEDIATE INOCULATION OF SPUTUM MEDIA FOR DIAGNOSIS OF PNEUMONIA

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Purpose: Proper collection of specimens is important to maximize the outcome of laboratory test for the diagnosis of infectious disease. For urinalysis and culture and sensitivity testing, CLSI guideline recommends testing within two hours of collection. In this study, we will discuss the impact of the delayed inoculation.

Methods: A total of 40 consecutively collected midstream and/or catheter-catch urine samples from patients were cultured in medium. The samples were inoculated immediately, one hour, two hours and 4 hours separately.

Results: The culture result yields that the difference between the immediate cultures and delayed inoculations were influenced by the period of delaying.

Conclusion: Direct sample inoculation into selective growth medium may improve the likelihood of detecting real pathogen.

PS 1-075

ANTIMICROBIAL SUSCEPTIBILITY AMONG HOME CARE CASES WHO WERE HOSPITALIZED DUE TO URINARY TRACT INFECTION AT A TERTIARY CARE HOSPITAL

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Purpose: The surveillance of antimicrobial resistant pathogens among the home care group was rare discussed in past literature. This study was designed to evaluate antimicrobial resistant pathogens among home care cases who were hospitalized due to urinary tract infection at a tertiary care hospital.

Methods: We prospectively collected the bacterial isolates from home care cases who had been hospitalized due to UTI at a tertiary care hospital during 2013/1/1 ~ 2014/9/30. Only first episode of UTI during study period would be enrolled. The distributions of bacterial isolates and their antimicrobial resistance were analyzed. Rates of susceptibility to imipenem, ceftazidime, levofloxacin, trimethoprim/sulfamethoxazole and amikacin were measured using 2014-CLSI breakpoints.

Results: Total 85 isolates were collected from 59 cases who had been hospitalized at least once due to UTI. Gram negative bacilli (75.3%) were dominant pathogens. The ranking top six of gram negative bacilli and their susceptibility data were listed in table1. As for gram positive bacteria, *Enterococcus spp* occupied 47.6% and one isolate was vancomycin-resistant enterococcus. Two isolates of oxacillin-resistant *S. aureus* were also noted.

Conclusion: The dominant pathogens of UTI in home-care cases were *E. coli*, *P. aeruginosa*, *K. pneumonia* and *Enterococcus spp*. High ratios of MDR Enterobacteriaceae (53.8%) were noted in our study. Only imipenem and amikacin were active against > 90 % GNB isolates. Ratio of ampicillin resistant enterococcus (10%) was low, and only one VRE was noted. Thus, when facing UTI issue from home-care cases, it is important to early identify the isolates by gram stain in order to choose appropriate antimicrobial agents.

Table 1 (PS 1-075)

Pathogens	Total Number (%)	CRO	CAZ	LVX	SXT	AN	IPM	#MDR ratio
1. <i>E. coli</i>	18(28.1)	10(55.6%)	X	6(33.3%)	8(44.4%)	18(100%)	18(100%)	61.1%
2. <i>P. aeruginosa</i>	11(17.2)	X	10(90.9%)	8(72.7%)	X	10(90.9%)	9(81.8%)	18.2%
3. <i>K. pneumoniae</i>	10(15.6)	4(40%)	x	6(60%)	4(40%)	10(100%)	10(100%)	60.0%
4. <i>C. koseri</i>	6(9.4)	4(66.6%)	X	3(50%)	4(66.6%)	4(66.6%)	6(100%)	50.0%
5. <i>P. mirabilis</i>	5(7.8)	4(80%)	X	4(80%)	4(80%)	4(80%)	5(100%)	20.0%
6. <i>A. baumannii</i>	4(6.3)	X	3(75%)	1(25%)	1(25%)	3(75%)	4(100%)	75.0%

MDR: multidrug resistant; non-susceptible to ≥ 1 agents in ≥ 3 antimicrobial categories

CRO: Ceftriaxone, CAZ: Ceftazidime; LVX: Levofloxacin, SXT: Trimethoprim/sulfamethoxazole, AN: Amikacin, IPM: Imipenem

PS 1-074

THE EVALUATION OF THE ANTIMICROBIAL SUSCEPTIBILITY OF THE CLINICAL ISOLATES WITH THE AUTOMATED SYSTEM

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Purpose: The VITEK 2 is a new version of the automated system for organism identification and susceptibility testing. It's very powerful to

Methods: Case control study. Case: Vitek 2 automated machine.

Control group: True MIC: Sigma standard powder for MIC test.

Results: The sensitivity rate of Proteus showed major difference in Imipenem result. False negative rate is about 20%.

Conclusion: Our data suggest that disk diffusion, especially with meropenem disks, may be used to confirm a carbapenem nonsusceptible result in *K. pneumoniae* isolates, which would warrant further testing. If treatment failure with carbapenems is observed for isolates of *K. pneumoniae* that were previously reported as susceptible to carbapenems, repeat testing with a nonautomated method, such as disk diffusion, may be warranted.

PS 1-076

CLINICAL AND MICROBIOLOGICAL ANALYSIS OF ACINETOBACTER BAUMANNII BACTEREMIA IN NEONATAL INTENSIVE CARE UNITS

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Objective: *Acinetobacter baumannii* is one of the most common bacterial pathogens to cause nosocomial infections, pneumonia and bacteremia in particular, in patients admitted in intensive care units. There have been few studies on *A. baumannii* infection in neonates. The study aimed to characterize the clinical manifestations and outcomes of patients with *A. baumannii* bacteremia in the neonatal intensive care units (NICUs). Molecular epidemiological analysis on the *A. baumannii* isolates derived from the neonatal patients was also carried out.

Methods: All patients with *A. baumannii* bacteremia in NICUs of a medical center from 2004 to 2014 were reviewed. We analyzed the clinical manifestations,

laboratory findings, and outcome of the patients. Multilocus Sequencing Typing (MLST) was used to genotype the bacterial isolates to trace the relatedness of the isolates that caused bacteremia in newborn patients. The following clinical information and microbiologic data were collected: demographic characteristics, presence of central venous catheters, invasive diagnostic and therapeutic procedures, total parenteral nutrition (TPN) and intrafat, mechanical ventilation, and previous and current antibiotic exposure.

Results: Forty cases with *A. baumannii* bacteremia were identified. Multi-drug resistance was found in only four isolates (10%). The bacteremia-related mortality rate is 7.5%. Most of the patients with *A. baumannii* infection had prolonged intubation, presence of percutaneous central venous catheter (PCVC) (65%) and longer use of TPN or intrafat (95%). The result of MLST showed diverse genotypes.

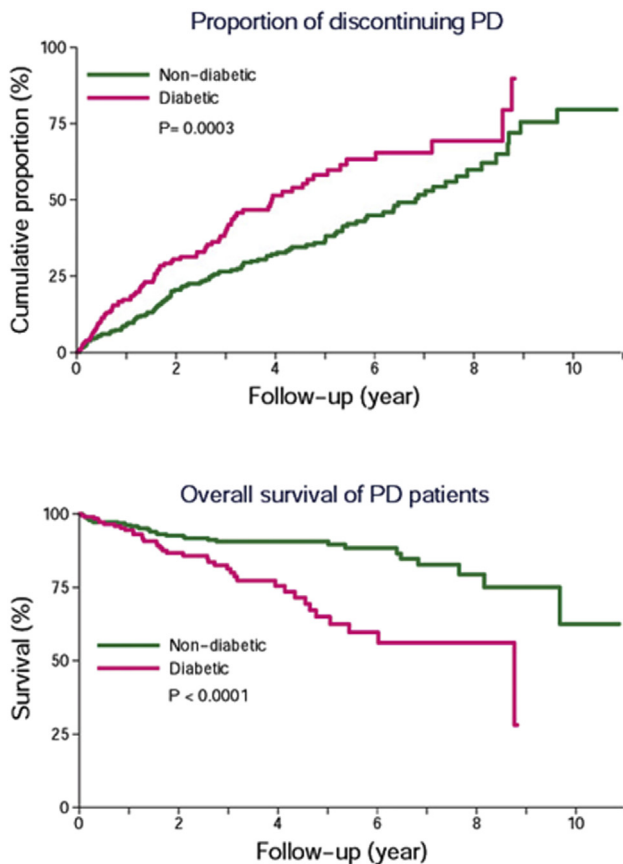
Conclusions: *A. baumannii* bacteremia occurred primarily in preterm neonates on TPN and intrafat use and with prolonged intubation in the NICUs. *A. baumannii* bacteremia did not often lead to mortality and multidrug-resistant *A. baumannii* is uncommon in neonatal patients. Decreasing the use of PCVC and intubation time could reduce the infection by *A. baumannii* in preterm neonates.

PS 1-077

RISK FACTOR OF PERITONEAL DIALYSIS-RELATED INFECTION: IMPACT OF DIABETES MELLITUS ON LONG-TERM OUTCOME

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Purpose: Infection including peritonitis is the major complication for patients receiving peritoneal dialysis (PD). PD-related infection remains the leading cause of withdrawing dialysis. Nursing care for patients free from infection is an important issue. This study is conducted to investigate the risk factors and outcome of PD-related infection.



Methods: Data and medical records are obtained from registry database in a tertiary hospital. Clinical factors contributing to PD-related infection or outcome are all record and analyzed with logistic regression model. Outcomes were analyzed by log-rank test and Cox proportional hazard regression model.

Results: A total of 514 patients are enrolled for analysis from 2001 to 2013 consecutively. Diabetes mellitus is the risk factor contributing to PD-related infection in a multivariate regression analysis (odds ratio = 1.79 and 95% confidence interval [CI] = 1.19–2.67, *P* = 0.005). Diabetic patients have higher ratio of PD-related infection (hazard ratio [HR] = 1.83 and 95% CI = 1.43–2.34, *P* < 0.001) and discontinuing PD (HR = 1.68 and 95% CI = 1.27–2.24, *P* < 0.001) than non-diabetic. As comparing with non-diabetic patients, they also have higher mortality rate (HR=2.67 and 95% CI = 1.66–4.3, *P* < 0.001).

Conclusion: Diabetic patients are more prone to PD-related infection than non-diabetic patients. They also have earlier events to discontinue PD. To reduce the infection episode is the critical issue of nursing care in PD patients.

PS 1-078

INVESTIGATION ON NURSE OF KNOWLEDGE AND PROTECTION ADHERENCE OF MULTIPLE DRUG-RESISTANT ACINETOBACTER BAUMANNII IN A MEDICAL INTENSIVE CARE UNIT IN CENTRAL TAIWAN

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Purpose: Multiple Drug-resistant Acinetobacter baumannii(MDRAB) is most commonly isolated pathogens in many medical center ICUs. Severe infection could lead to a mortality rate as high as 46–63.9 %. Multiple drug resistant pathogens lead to stern challenges during treatment and cause financial burden. The purpose of this study is to survey on nurse base upon their knowledge of MDRAB and protection adherence.

Methods: This is a descriptive study. A structured questionnaire was used to measure comprehensive knowledge of Acinetobacter baumannii from nurses of medical center in central Taiwan. During the period between Apr 1 2013 and May 31, a total of 136 nurses joined our questionnaire survey. Percentile, t-test, ANOVA and regression analysis were adopted and all data analyses were performed using SPSS 17.0.

Results: There's a positive correlation between comprehensive knowledge of MDRAB and protection compliance. The higher frequency of caring MDRAB infected patients, the better the comprehensive knowledge they are (*p* = 0.017). The compliance of protection and comprehensive knowledge are higher among nurses who had received in-occupation education. The better the comprehensive knowledge is the higher the protection adherence of the nurses. For every 1 point increase in the knowledge of MDRAB, there will be 0.18 point increase in protection adherence.

Table 1 Multiple regression for the Participants' demographic and knowledge of MDRAB(N = 136).

	Exp(B)	SD	B	t	p
(Constants)	94.880	3.147		30.149	.000
Age	.312	2.888	.015	.108	.914
Education level	-1.393	2.729	-.045	-.510	.611
Marital status	2.185	2.524	.088	.866	.388
Department	1.031	1.862	.048	.554	.581
Clinical ladder level	.479	1.351	.056	.354	.724
Years of service	.010	1.432	.001	.007	.994
Care frequency	-2.551	1.050	-.215	-2.429	.017
Related education	-1.739	1.792	-.084	-.970	.334
<i>R</i> ² = .082 <i>F</i> = .196					

Table 2 Linear regression of knowledge of MDRAB and protection adherence

	Exp(B)	SD	B	p
(Constants)	2.654	.390		.000
Knowledge	.018	.004	.346	.000