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239. Infections and sepsis in the ICU

P1984**Serum microRNA signatures identified by Solexa sequencing predict sepsis patients mortality: A prospective observational study**

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Background: Sepsis is the leading cause of death in Intensive Care Unit. Novel biomarkers and targets of treatment were still needed to improve the mortality. Our goal of the prospective study was to investigate if serum miRNAs identified in genome-wide scans could predict sepsis mortality.

Methodology/Principal findings: 214 sepsis patients participated in the study. Solexa sequencing followed by qRT-PCR were used to test for differences in the levels of miRNAs between survivors and non-survivors of sepsis patients. miR-223, miR-15a, miR-16, miR-122, miR-193* and miR-483-5p were significantly differentially expressed, and the area under curve of the six miRNAs predictive mortality value ranged from 0.610 (95%CI, 0.523-0.697) to 0.790 (95%CI, 0.719-0.861). Logistic regression analysis showed that sepsis stage, APACHE II score, miR-15a, miR-16, miR-193b* and miR-483-5p were correlated to the death of sepsis and area under curve of the six variables predictive value was 0.950 (95% Confident interval, 0.919-0.982), which was much higher than APACHE II score, SOFA score, and procalcitonin with area under curve of 0.782 (95% CI, 0.712-0.851), 0.752 (95% CI, 0.672-0.832) and 0.689 (95% CI, 0.611-0.784), respectively. When the cut off point set at 0.526, the predictive value of the six variables provided a 85.2% sensitivity and a 90.4% specificity. In addition, miR-193b* had highest odds ratio of 9.23(95% CI, 1.20-71.16).

Conclusion/Significance: Six miRNAs expression profiles could be used to predict septic mortality. The predictive value was better than the indicators that used in clinical.

P1985**The effect of peer-to-peer feedback on severe community acquired pneumonia**

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Delays in intensive care unit (ICU) admission are associated with higher mortality in community acquired pneumonia (CAP). (Phua J, *Eur Resp J* 2010;36:826). In 2008 we employed minor severity criteria from the 2007 IDSA/ATS guidelines plus point of care lactate to identify high risk patients in the emergency department

(ED) for rapid resuscitation and direct admission to the ICU. (Phua J, *Thorax* 2009;64:598) This was associated with reduced mortality in severe CAP, without increasing ICU admission rates. (Lim TK, *Int. Forum on Quality & Safety in Healthcare* 2012).

Intervention: In July 2010 we implemented peer-to-peer feedback(p2p) on severe CAP management between ED & ICU teams to improve teamwork and safety. (Hudson DW, *et al Am J Med Qual.* 2011 Dec 27)

Results: From Jul 2010-Dec 2011 we admitted 243 patients with severe CAP in our ICU. ICU admission were delayed in 36% and hospital deaths 22.2%. Delays in ICU admission increased from 31% in 2010 to 40% in 2011. Nevertheless, there was a small drop in overall mortality (25.5% to 20%) mostly in patients directly admitted to ICU which fell from 26.5% to 17.2%. Mortality in delayed ICU admissions was stable (23.9% to 23.3%). Adherence to the resuscitation bundle was high in 2010: point of care lactate test 91%, antibiotics 97%, intravenous fluids 95% & vaso-pressors 100%. But it fell in 2011 to 84%, 80%, 98% & 86% respectively.

Conclusions: In the management of severe CAP p2p was associated with reduction in mortality without increasing early/direct ICU admissions rates. Timely and sustained p2p feedback may be required to maintain a high degree of adherence to resuscitation bundles and to further improve patient outcomes in severe CAP.

P1986

Determining the best diagnostic biomarker for sepsis and prognosis assessment

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Introduction: Current clinical practice lacks reliable diagnostic indicators for sepsis and its prognosis.

Objectives: To describe the value of sTREM-1, sCD163, PCT, CRP, WBC and SOFA score during the course of sepsis, as well as their value in prognosis.

Methods: 130 subjects were picked out of 377 inpatients hospitalized at the RICU, SICU, and EICU. In light of Sepsis Guideline and 28-day survival, the 130 patients were divided into different subgroup. ELISA was applied, and test results were recorded on day 1, 3, 5, 7, 10, and 14.

Results: On ICU admission day, the sepsis group display higher levels of sTREM-1, sCD163, PCT, and CRP than the SIRS group [180.92 (150.44) pg/ml vs. 29.41(20.77) pg/ml; 2.22 (2.36) mg/dL vs. 0.88 (0.23) mg/dL; 1.65 (10.1) ng/ml vs. 0.35 (1.58) ng/ml; 11.76±8.09 mg/dl vs. 5.65±4.27mg/dl, $P < 0.05$]. Although PCT, sTREM-1 and SOFA are good markers to identify the severity, sTREM-1 is more reliable. It proves to be a risk factor related to sepsis (OR=1.089, 95%CI, 1.045-1.136); its area under the ROC curve, meant for diagnosis, turns out 0.978 (95%CI, 0.958-0.997), and that for severity, 0.9 (95%CI, 0.823-0.977). For 14-day observation, sCD163, sTREM-1, PCT and SOFA continue to climb among non-survivors, while WBC and CRP go down. Both sCD163 and SOFA are risk factors impacting the survival time (HR=1.09, 95%CI 1.035-1.154; HR=1.23, 95%CI 1.126-1.335). Their areas under the ROC curve, denoting prognosis, measures 0.696 (95%CI, 0.593-0.799) and 0.794 (95%CI, 0.705-0.833) respectively.

Conclusion: With regard to sepsis diagnosis and severity, sTREM-1 is more ideal, and constitutes an risk factor. sCD163 and SOFA are of positive value in dynamic prognostic assessment, and may be taken as survival-impacting risk factors.

P1987

Elevated plasma EPCR levels early post ICU admission predict sepsis development

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Introduction: The endothelial protein C receptor (EPCR) mediates coagulation and inflammation. Early rise of circulating soluble (s)EPCR levels has been shown to correlate with poor outcome in critically-ill patients with severe sepsis (Guillon *et al. Intensive Care Med* 2011; 37: 950-6); yet potential associations of sEPCR measured early post ICU admission with subsequent sepsis development are still unknown.

Aims: To investigate if sEPCR plasma levels of critically-ill subjects at ICU admission predict sepsis development.

Methods: 59 critically-ill patients suffering from medical, surgical and trauma-related pathologies were included in the study. Circulating sEPCR levels were measured ≤ 24 h post ICU admission; all patients were free of sepsis. Demographics, APACHE II & SOFA scores were recorded and circulating PCT & CRP were measured.

Results: From the initial cohort, 30 patients subsequently developed sepsis and 29 did not. SOFA score (mean±SD: 6.4±2.7) and sEPCR levels (median & IQR: 173.4 (104.5-223.5) ng/mL) were significantly higher in the subsequent sepsis group as compared to the non sepsis group (5±2.3, $p=0.037$, and 98.3 (69.8-147.7) $p=0.004$, respectively). ICU mortality and PCT tended to be higher in the sepsis group. Cox regression analysis identified sEPCR as the only parameter related to sepsis development with time (RR: 1.078 & 95% CI: 1.016-1.144, by 10 sEPCR units, $p=0.013$). When the whole cohort was dichotomized above (≥ 139.5) and below the sEPCR median (< 139.5), the probability of developing sepsis with time was significantly elevated in the high sEPCR group (Log-Rank test, $p=0.028$).

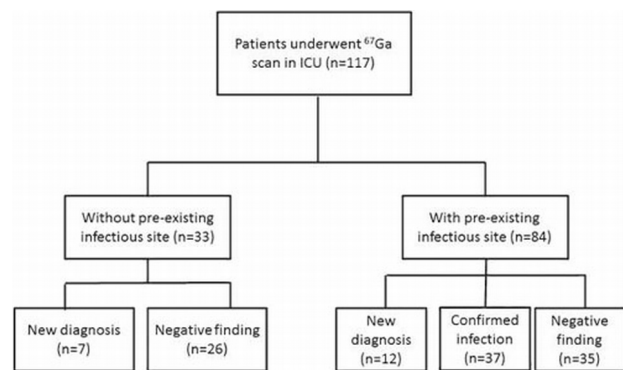
Conclusions: In our cohort, high sEPCR plasma levels at ICU admission (i.e. ≤ 24 h) predict sepsis development.

P1988

Role of gallium-67 scintigraphy in the evaluation of occult sepsis in the medical ICU

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Patients in intensive care units (ICUs) frequently have multiple infections or persistent fever despite management. This study was to evaluate the diagnostic contribution of gallium-67 scintigraphy in ICU patients with suspected occult sepsis. One hundred and seventeen patients who had undergone gallium-67 scintigraphy in the ICU of our medical center over a 3-year period were retrospectively reviewed and analyzed. Patients were categorized into Group 1 (n = 84), those with a known infectious source, but who still had persistent fever or sepsis despite antibiotic treatment or abscess drainage; or Group 2 (n = 33), those without an evident infectious source after clinical, physical, and imaging studies. Among these patients, 19 (16.2%) had a new diagnosis. In Group 1, 12 patients (14%) had a new infection, including pneumonia (4 patients), bed sore infection (2 patients), pulmonary tuberculosis (2 patients), leg cellulitis (1 patient), psoas muscle abscess (1 patient), osteomyelitis (1 patient), and infective endocarditis (1 patient). In Group 2, seven patients (21.2%) had a new infectious source, including septic arthritis (3 patients), osteomyelitis (2 patients), neck abscess (1 patient), and cholecystitis (1 patient).



Gallium-67 scintigraphy helped to detect new or additional infectious sites, particularly bone, joint, and soft tissues.

P1989

Peculiarities of an ARDS and respiratory support in patients with severe viral (H1N1) pneumonia

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Background: We aimed to evaluate clinical features of an ARDS and effectiveness of sequential differentiated respiratory support (SDRS) in patients with viral H1N1 pneumonia.

Methods: Retrospective analysis of 39 patients with severe H1N1 viral pneumonia treated at Respiratory Intensive Care Unit (RICU).

Results: Age of patients ranged from 17 to 52 years old. There were 12 (30.8%) men and 27 (69.2%) women, 13 (33.3%) of whom were pregnant. In all patients a leading resuscitation syndrome was an acute respiratory failure (ARF). ARDS was diagnosed in 26 (66.6%) patients. The phenomena of sepsis, multiple organ failure, septic shock were not detected in any patient in the first 7 days of hospitalization. SDRS consisted of two phases: Controlled oxygen therapy (COT) with an oxygen flow 6-8 l/min was effective in 11 (28.2%) patients. Intubation of trachea was

undertaken in cases of refractory hypoxemia that lasted for 30-45 min. Mechanical ventilation was carried out in 28 (71.8%) patients in the regime of PCV with "aggressive" parameters: FiO₂ - 0.8-1.0, PEEP - 15-20 cm H₂O, PIP - 30-40 cm H₂O, I: E - 1:1. Vt - 500-600 ml was achieved easily, indicating about preserved lung compliance. All patients required sedation at the beginning of mechanical ventilation in order to synchronize with the respirator. Muscle neuromuscular relaxants was not used. Duration of mechanical ventilation ranged from 7 to 83 days. NIV was excluded from the scheme of SDRS due to inefficiency.

Conclusion: A peculiar form of ARDS, without reducing elasticity of lung tissue, without sepsis, developed in patients with severe viral pneumonia. SDRS consisted of two phases: controlled oxygen therapy → invasive ventilation.

P1990

Overt disseminated intravascular coagulation in severe sepsis associated with specific organ dysfunction and poor survival

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Background: In sepsis, abnormal coagulation cascade cause disseminated intravascular coagulation (DIC). Little is known about the clinical characteristics in overt DIC in severe sepsis.

Objectives: To investigate the clinical features and dysfunction of different organ systems in overt DIC in severe sepsis

Methods: This prospective observational study was conducted in the medical intensive care unit in a tertiary medical center in Taiwan. Adult patients admitted for severe sepsis would be enrolled. Patients with cirrhosis or advanced malignancies would be excluded. Baseline patient profiles were obtained, including APACHE II and SOFA scores. Overt DIC was defined according to the scoring system from the International Society on Thrombosis and Haemostasis.

Results: From Oct 2009 to Dec 2011, 248 consecutive patients admitted for severe sepsis were screened for the eligibility, and a total of 100 patients were enrolled. The APACHE II and SOFA scores were 25.9±0.8 and 9.9±0.4, respectively. Only 8 patients (8%) had overt DIC. The 28-day mortality was higher in patients with overt DIC than in those without (62.5% vs. 20.7%, P=0.001). Patients with overt DIC had higher SOFA scores than those without (14.1±0.8 vs. 9.5±0.4, P=0.001). Higher hepatic (P=0.003), cardiovascular (P=0.031) and coagulation (P<0.001) SOFA sub-scores were found in patients with overt DIC, while the respiration, central nervous system, and renal subscores were not significantly different compared to those without overt DIC.

Conclusions: In our patients with severe sepsis, overt DIC is uncommon, and is associated with organ dysfunction mainly involving hepatic, cardiovascular, and coagulation systems.

P1991

Remifentanyl attenuates LPS-induced neutrophil activation

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Surgical trauma and anesthesia are associated with a complex dysregulation of the immune system with neutrophil activation involving activation of both pro-inflammatory and anti-inflammatory cytokines. Several studies demonstrate that opioids modulate the immune response via opioid receptors expressed directly on the immune cells themselves. Neutrophils play a pivotal role in the coordination and regulation of immune responses. However, the ability of opioid directly participating in LPS-induced neutrophil activation has not been fully examined. In the present experiments, the effects of various opioids including remifentanyl, sufentanil, alfentanil and fentanyl were investigated. Remifentanyl only could attenuate activation of neutrophils exposed to LPS. In particular, remifentanyl decreased LPS-induced activation of intracellular signaling pathways, including p38 mitogen-activated protein kinase (MAPK) and ERK1/2, and expression of pro-inflammatory cytokines, including TNF- α , IL-6 and IL-8. There was no effect of remifentanyl on LPS-induced activation of c-Jun N-terminal kinase (JNK) in neutrophils. These results demonstrate that remifentanyl can attenuate LPS-induced neutrophil responses and also suggest that such effects are sufficiently important in vivo to play a major contributory role in neutrophil-mediated inflammatory responses by surgical and anesthetic trauma.

P1992

C-reactive protein (CRP) as a marker of disease severity in community acquired pneumonia patients with sepsis

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Introduction: C - Reactive Protein (CRP), an early sensitive marker of inflam-

mation is studied extensively in various common medical disorders. Until recently CRP measurement was not studied widely in Pneumonias. We intended to study its usefulness for assessment of disease severity in patients of Community acquired pneumonia (CAP) with Sepsis.

Objective: To evaluate the utility of C - Reactive Protein as a marker of disease severity in patients of Community acquired pneumonia with Sepsis.

Methods: Study design: Prospective observational study.

Setting: 12 bedded ICU of a multi speciality hospital in Abudhabi, UAE.

Subjects: 40 patients admitted during June 2010 - January 2012, fulfilled the study criteria.

CAP and Sepsis were defined based on the ATS and ACCP/SCCM 1992 criteria respectively.

Results: Patients were divided into two groups, Group A with CRP < 300 mg/L and Group B with > 300 mg/L with mean age being 36.5 and 42.6 years respectively. Characteristics of disease severity were compared in both the groups.

Table I. Disease severity

Characteristics	Group A	Group B	p value
Septic shock	1	12	0.0128
Severe sepsis	5	23	0.0002
Organ dysfunction > 2 organs	3	20	0.0003
Mech ventilation	0	4	>0.05
Mortality	0	3	>0.05

Presentation of septic shock, severe sepsis and multiorgan dysfunction was significantly higher in group B (p< 0.05). Mean CRP value among nonsurvivors was 355.33 mg/L and 257.56 mg/L among survivors (p <0.05).

Conclusion: CRP value of greater than 300 mg/L within first 48 hours of admission in ICU appears to be a good marker of disease severity in patients of Community acquired pneumonia with Sepsis and may be useful to identify high risk patients.

P1993

Impact of experience and education in treatment of adult respiratory distress syndrome (ARDS) using extracorporeal membrane oxygenation (ECMO)

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Background: Extracorporeal membrane oxygenation (ECMO) is a form of long-term cardiopulmonary bypass and recently have been used to treat adults with respiratory or cardiac failure despite maximal medical therapy. ECMO is a high risk procedure with 25% of mortality rate.

The previous a few studies showed that improving equipment and increased experience to manage ECMO are important to patient survival and improving results.

ECMO training program is important in solving significant, life-threatening problems that can occur during ECMO application.

Our aims in this study are to show our experience of ECMO management and reduction in mortality rate according to an accumulation of experience and knowledge.

Methods: A nonrandomized retrospective study was performed.

Results: In 2009-2011, ECMO was applied to 82 patients. Venous-venous and veno-arterial ECMO was 63.4% and 36.6%, respectively. ECMO was applied to 47 patients in 2009~2010 and 35 patients in 2011. The most common cause of ECMO application was pulmonary problem.

The most common complication of ECMO was bleeding and the most common cause of death was pneumonia. 41.5% of patients was weaned off the ECMO.

Intensive care unit mortality was higher on 2009~2010 than on 2011 (89.4% vs 57.1%, OR 6.3, CI 2.008-19.771, p<0.001). Hospital mortality was higher on 2009~2010 than on 2011 (89.4% vs 57.1%, OR 6.3, CI 2.008-19.771, p<0.001) and 28-day mortality was higher on 2009~2010 than on 2011 (72.3% vs 45.7%, OR 3.106, CI 1.235-7.812, p<0.014).

Conclusion: According to an accumulation of experience and knowledge, mortality was reduced in 2011 compared to 2009-2010.

P1994

Predictors of mortality in cancer patients requiring intensive care support: Two-centered cohort study

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Aim: Acute respiratory failure (ARF) can be developed in cancer patients due to disease progression or as a complication of treatment. In our study we aimed to identify the factors associated with mortality in cancer patients admitted to the intensive care unit (ICU) due to ARF.

Method: A retrospective-cohort study was planned in two ICUs of training hospital of chest diseases between January 2008 and december 2011 period. Demographic data, type of cancer, cause of ARF, comorbid disease, APACHE II value, type of

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treatment, and mortality were recorded from the medical records of cancer patients followed in ICU.

Results: During the study period 463 (373 male) cancer patients were included in the study followed by two-centers in the ICU. The median age of the patients was 65 (57-72). 78% of the patients were lung cancer while 22% of the patients were extrapulmonary cancer and the mortality rates were similar. Cause of ARF in 84% (n:391) of the patients were due to cancer invasion and 12% was infections. APACHE II value was 24 (18-30) and ICU day was 5 (2-10). Application of invasive and noninvasive mechanical ventilation was respectively 20% and 74%. The mortality rate of the cancer patients in ICU was 54%. APACHE II value was significantly higher in patients who were died ($p < 0.001$). The mortality of the female patients were higher ($p < 0.05$).

Conclusion: The mortality is higher than the overall ICU mortality, in patients with advanced cancer who required ICU support. In our study; APACHE II value and female gender are the marker of high mortality in cancer patients developed ARF.

P1995

Prognosis of patients with active tuberculosis requiring intensive care unit

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Tuberculosis remains an important health problem. The aim of this study to determine the mortality rate of patients with active tuberculosis requiring intensive care unit.

We conducted an observational study. Patients with confirmed active tuberculosis admitted to ICU between May 2010 and January 2012 were identified and enrolled. Clinical data and mortality rate were recorded.

A total of 19 tuberculosis patients admitted to ICU were included. Mean Acute Physiology and Chronic Health Evaluation (APACHE) II score at admission was 17.00 ± 7.7 . Twelve patients (63%) required mechanical ventilation. The mortality was 12 of 19 (63%). The reasons associated with ICU admission were massive hemoptysis in two patients, empyema in one patients, active tuberculosis and sepsis in nine patients, tuberculous meningitis in one patients and tuberculosis and/or pneumonitis in others. High APACHE II score and invasive mechanical ventilation use were significantly associated mortality ($p < 0.005$ vs $p < 0.004$, $r = -0.74$)

These data indicate a high mortality of patients with tuberculosis requiring intensive care unit care and further studies needed to determine associated risk factors.

P1996

Extracorporeal membrane oxygenation as bridge in patients with non-iatrogenic massive hemoptysis

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Despite advanced technologies in intensive care, massive hemoptysis can cause death in a small subset of patients. In special, extensive bleeding, hypoxia, decreased pulmonary function and/or other comorbidities make it more difficult or impossible to perform bronchoscopy, arterial embolisation or resectional surgery. Extracorporeal membrane oxygenation (ECMO) is expected to provide adequate gas exchange, to reduce ventilator-induced lung injury and, eventually, to improve outcome in patients with respiratory and circulatory failure. However, it is not sure whether it is beneficial or not to perform ECMO in unstable patients with non-iatrogenic massive hemoptysis. The case applying ECMO to patients with iatrogenic massive hemoptysis is also very rare. A male with medical history of pulmonary tuberculosis received mechanically ventilator support because of severe community acquired pneumonia. As he abruptly showed severe hypoxemia and hypotension due to massive hemoptysis, ECMO was instituted. We herein describe detailed course of our case, helping physicians make a decision to initiate ECMO in patients with non-iatrogenic massive hemoptysis.

P1997

The mortality of Acinetobacter baumannii infection in intensive care unit

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Aim: The results of new approaches in treatment of resistant Acinetobacter baumannii (AB) infection are controversial. The treatment choices and mortality ratio of cases with AB infection were evaluated during 3 year period in our intensive care unit (ICU).

Methods: The study was conducted as a retrospective cohort study at ICU of a training hospital between 2009-2011. Demographics, use of invasive (IMV) and noninvasive mechanical ventilation (NIMV), site and day of AB infection, ICU

days and mortality were recorded from inpatient records. Patient data were given as median and interquartile ratio (IQR, 25%-75%).

Results: Among 2357 patients nosocomial AB infection was detected in 107 patients (76 male) in specified period. The median age, APACHE II score, SOFA score and culture detection day were 70 (62-75), 21 (17-26), 8 (5-9), and 7 (4-12) days, respectively. Patients on IMV treatment, IMV days and ICU days were 101 (94.3%), 16 (7-25) days and 21 (15-29) days, respectively. AB infection isolation sites were: 88 in tracheal secretion/bronchial lavage, 6 in blood, 13 in multiple sites. The number of cases/mortality for different treatment choices like Tygecycline, Colistin, Carbapenem and Cephaperasone-Sulbactam were: 30/13, 16/10, 21/12 and 32/10, respectively. Six cases with Piperacilline-Tazobactam empirical treatment died before antibiotic regimen changed. Overall mortality was 48% (n=50).

Conclusion: AB infection requiring increased frequency of intubation has severe clinical course and high mortality. Cephaperasone-Sulbactam regimen is partially promising for outcome, however mortality is higher with Colistin combined regimens.

P1998

Clinical outcome and prognostic factors of acute respiratory failure due to pneumocystis pneumonia in non-HIV patients

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Pneumocystis pneumonia is a potentially life-threatening infection that occurs in immunocompromised individuals. While it is well-known that the clinical course of PCP in non-HIV patients differs in HIV-positive patients. But, the ICU mortality of patients with acute respiratory failure requiring mechanical ventilation dose not well known.

The objective of this study was to examine the outcome and prognostic factors of ICU mortality in patients with acute respiratory failure caused by Pneumocystis pneumonia.

We conducted a five-year retrospective review (from October 2005 to December 2010) of all patients who had histologic evidence in the non-HIV patients. Of the 44 adult patients investigated, 25 patients (56%) had solid or hematologic malignancies, 17 (33%) had received transplantation and 43 (97%) had received corticosteroid. Median P/f ratio on day 1 was 139 (IQR:116-187), SAPS 3 score on day 1 was 46 (IQR:36058) and SOFA score on day 1 was 7 (IQR:5-9). The ICU mortality rates are 50% (22 patients were died) and associated with high SAPS 3 score (37 vs. 58, $p < 0.001$), high SOFA score (6 vs. 8, $p = 0.003$) and newly developed shock after ICU admission (18% vs. 68%, $p = 0.002$). Multivariate Logistic regression analysis demonstrated that SAPS 3 score (OR 1.219, 95% CI 1.086~1.369, $p = 0.001$) on day 1 and newly developed shock (OR 25.788, 95% CI 2.364~281.301, $p = 0.008$) after ICU admission were associated with higher ICU mortality.

The mortality rate in patients with acute respiratory failure caused by pneumocystis pneumonia was high. Especially, the severity on ICU admission and newly developed shock after ICU admission were related to a poor prognosis.

P1999

Inhaled colistin on Acinetobacter baumannii treatment

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Introduction: Ventilator associated pneumonia and tracheobronchitis (VAP/VAT) due to multiresistant A. baumannii are preeminent causes of mortality and morbidity at ICU's. Inhaled antibiotics, allowing high antibiotic concentrations at airways and secretions, are described as an alternative or complement to systemic therapy. **Objectives:** Primary – microbiology outcome on A. baumannii VAP/VAT treatment with inhaled colistin; loss of polymyxin sensitivity after inhaled colistin. Secondary – characterization of clinical outcome; of the A. baumannii isolated; of inhaled colistin use; of systemic antibiotic co-administration; of ICU and hospital mortality.

Material and methods: Observational, longitudinal, retrospective study, through file consult, of patients admitted at UUM from 01/2005 to 12/2011, with A. baumannii VAP/TAV, treated with inhaled colistin.

Results: 23pts included, 18 male, mean age 70 ± 18 yrs, with mean IUC admission APACHE II and SAPS II score of 23 and 54. Microbiologic eradication was achieved on 19 (83%), with 4 relapses. At failure to eradicate or relapse no change was observed on resistance profile. Clinically, there was a positive evolution of SOFA and Oxygenation Index with treatment. A. baumannii was extensively resistant in all cases, being sensible only to polymyxins in 20 (87%). Mean inhaled colistin diary dose was $3.5 \times 6u$ ($1 \times 6u$ - $6 \times 6u$), with a mean duration of 7.8 ± 3.5 days. Systemic colistin was co-administrated in 6pts, with 100% eradication rate and only one relapse. ICU and hospital mortality was 4.3% and 39%.

Conclusions: On critical patients, inhaled colistin was effective treating PAV/TAV due to extensively resistant A. baumannii. No change on antibiotic resistance profile occurred after treatment.

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P2000**Intensive care unit acquired pneumonia with or without etiologic diagnosis: A comparison of outcomes**

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Background: The impact of intensive care unit acquired pneumonia (ICU-AP), without etiologic diagnosis, on patient outcomes is largely unknown.

Objective: To compare the clinical characteristics, inflammatory response and outcomes between patients with or without microbiologically confirmed ICU-AP.

Methods: We prospectively collected 270 patients with ICU-AP. Patients were clustered according to positive or negative microbiologic results. We compared the baseline characteristics and outcomes between groups.

Results: ICU-AP without etiologic diagnosis was found in 82 (38%) patients. In comparison with patients with microbiologically confirmed ICU-AP, patients without etiology presented more frequently chronic renal failure (15, 18% vs. 11, 6%, $p=0.003$), chronic heart diseases (35, 43% vs. 55, 29%, $p=0.044$), higher hypoxemia ($\text{PaO}_2/\text{FiO}_2$ 165 ± 73 vs. 199 ± 79 mmHg, $p=0.001$) and shorter intensive care unit (ICU) stay before the onset of pneumonia (5 ± 5 vs. 7 ± 9 days, $p=0.001$). The systemic inflammatory response was similar between groups. Despite similar severity at the ICU admission and onset of pneumonia, in patients with microbiologically confirmed ICU-AP there was higher in-hospital (84, 45% vs. 25, 31%, $p=0.040$), and 90-day mortality (87, 51% vs. 28, 36%, $p=0.043$).

Conclusion: Microbiologically not confirmed ICU-AP develops earlier and it is associated with better outcomes and specific underlying comorbidities that increase the risk of pulmonary edema, ultimately suggesting a potential misdiagnosis.

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P2001**Post-resuscitation central venous pressure and serum lactate associated with survival in severe sepsis and septic shock**

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Background: The survival in severe sepsis and septic shock is improved by quantitative resuscitation, with goals as mean arterial pressure (MAP), central venous pressure (CVP), oxygen saturation of central venous blood (ScvO₂), and lactate clearance.

Objectives: To investigate whether post-resuscitation MAP, CVP, ScvO₂, and lactate level predict the survival in severe sepsis and septic shock.

Methods: This prospective study was conducted in two tertiary medical centers in Taiwan. Adult patients admitted for severe sepsis or septic shock would be enrolled. Patients with cirrhosis or advanced malignancies were excluded. All patients received initial hemodynamic resuscitation before ICU admission. We evaluated the association between 28-day survival and post-resuscitation MAP, CVP, ScvO₂, and lactate level.

Results: A total of 124 patients were enrolled from Aug 2009 to Dec 2011. The APACHE II and SOFA scores were 25.3 ± 0.7 and 9.9 ± 0.3 , respectively. The 28-day mortality was 26.6%. Multi-variate logistic regression analyses showed that CVP ($P=0.010$) and serum lactate ($P=0.011$) were associated with 28-day mortality. Post-resuscitation hemodynamic scores were established with two subscores: CVP (1 if ≥ 13.5 mmHg) and serum lactate level (1 if ≥ 5.3 mmol/L). Higher post-resuscitation hemodynamic scores were associated with higher APACHE II and SOFA scores ($P < 0.001$ and < 0.001 by Kruskal-Wallis test, respectively), and higher risk of 28-day mortality (hazard ratio 3.14, $P < 0.001$ by logistic regression).

Conclusions: In our patients with severe sepsis and septic shock, high post-resuscitation CVP and serum lactate were associated with organ dysfunction and high mortality.

P2002**Effect of antibiotic prophylaxis on pneumonia in cardiac arrest patients treated with therapeutic hypothermia**

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Background: Infectious complications are frequent after cardiac arrest and a few reports have demonstrated that infections may be even more frequent after

therapeutic hypothermia. Pneumonia is the most frequent infectious complication in these patient.

Objectives: We investigated the effect of antibiotic prophylaxis on the development of pneumonia in cardiac arrest patients treated with therapeutic hypothermia.

Methods: We retrospectively reviewed medical records of patients who admitted for therapeutic hypothermia after resuscitation of out-of-hospital cardiac arrest between January 2010 and December 2011. Patients dying within the first 72 hours were excluded.

Results: Of the 46 patients admitted after cardiac arrest, 31 patients were analyzed and

24 patients (77%) were treated with prophylactic antibiotics within the 24 hours. The frequency of pneumonia in the first three days (early pneumonia) and after the third day (late pneumonia) was not significantly different between the prophylactic antibiotics group and the control group (33.3% vs 11.1% for early pneumonia, $P=0.639$; 50% vs 18.6% for late pneumonia, $P=0.412$). And the antibiotic prophylaxis did not also influence the length of ICU stay (19.4 days in the prophylactic antibiotics group vs 16.4 days in the control group, $P=0.659$) and of mechanical ventilator (17.3 days in the prophylactic antibiotics group vs 12.7 days in the control group, $P=0.372$).

Conclusion: Antibiotic prophylaxis in cardiac arrest patients treated with therapeutic hypothermia did not reduce the frequency of pneumonia.