PAPER SESSIONS: ORAL

Cardiovascular & Hemodynamic: F01-F02

F01

COMPARISON OF FEMORAL ARTERIAL BLOOD PRESSURE WITH RADIAL ARTERIAL BLOOD PRESSURE IN SEVERE SHOCK- A PROSPECTIVE OBSERVATIONAL STUDY

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Introduction: Invasive arterial BP monitoring is common practice in hemodynamically unstable patients. Radial artery is the most frequent site followed by femoral artery. However best site for catheter insertion is controversial especially in severe shock requiring multiple & high dose vasoactive support.

Objective: To compare femoral arterial BP with radial arterial BP in patients with severe shock.

Materials & Methods: A total of 20 patients admitted at ICU LHRC were included in study. Our inclusion criteria were age 18-75 years, hemodynamically unstable patients requiring high dose & multiple vasoactive agents i.e. noradrenaline >0.5 mcg/kg/min & dopamine > 15mcg/kg/min and/or vasopressin and suspected catheter related infection. We excluded post cardiac surgery patients, patients with catheter malfunction and patients with peripheral arterial disease. For femoral 18G 15cm catheter (arteriofix) and for radial 20G 8cm catheter (arteriofix) were used. Indwelling catheters were connected to two seperate transducer system & simultaneous systolic, diastolic, mean BP were recorded over 5 minutes at an interval of 1 minute.

Observation & Results: Most of patients (14 out of 20) had septic shock & remaining had cardiogenic plus hypovolemic shock. All patients had multiorgan failure mean SOFA and APACHE-II score being 10 & 22 respectively. We found significant difference in systolic, diastolic & mean BP between femoral and radial artery. Femoral BP was significantly higher than radial BP.

Conclusion: Femoral (central) and radial (peripheral) artery measurement of BP donot show agreement. It is mandatory to cannulate femoral artery in patients with severe shock requiring multiple & high dose vasoactive drug support.

F02

STUDY OF FOCUSSED ASSESSMENT OF TRANS-THORACIC ECHOCARDIOGRAPHY (FATE) PROTOCOL IN POST CARDIOTHORACIC SURGERY PATIENTS.

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Objectives: to evaluate the utility of FATE protocol in decision making in adult post cardiothoracic surgery patients in intensive therapy unit. Materials and Methods -366 patients among the 1200 adult patients undergoing cardiothoracic surgery including valve repairs and replacements, bypass grafting and aortic aneurysm repairs were studied over a period of four months. FATE protocol was followed in these 366 patients when there was clinical indication for echocardiography. Four views- apical, parasternal, sub-xiphoid, and pleural views were examined by a senior consultant intensivist using a standard GE ECHO machine. Assessment of usefulness of FATE was made in four categories - (i.) Poor window/ no information (ii) Support of existing information (iii) Added new information (iv) Added decisive information

Results: A total of 366 patients were studied, and decisive information was obtained using FATE in 246 (67.21%), new information was obtained in 32 (8.74%), and in 86 (23.49%) FATE supported already existing information. 2 (0.66%) patients had very poor ECHO window. Of the 246 patients, FATE aided in decision making, in terms of requirement of surgical intervention including Inter Costal Drain (ICD) insertion and re- exploration in 80 patients, in 234 patients medical management and duration of mechanical ventilation were directly influenced by FATE findings and another 50 patients were extubated aiding in early transfer out of the ITU. Results were analyzed using CHI square test and was found to have a significant p value < 0.0001.

Conclusions: FATE protocol in post cardiothoracic surgery patients, when performed by an experienced operator/ clinician yields definite benefit and may be recommended as a definitive tool aiding in decision making.

Economics, Logistics and Quality Issues: F03-05

F03

BEDSIDE CART SYSTEM AND ITS EFFECTS ON WORK DYNAMICS OF CRITICAL CARE NURSES

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Bedside Cart System And Its Effects On Work Dynamics of Critical Care Nurses Introduction: The outcome of patients admitted in ICU is closely related to the nursing attention they receive during the severe illness. Optimizing nurse ergonomics results in more clinical time, short response time and fewer complications.

Objectives: To determine if the introduction of a bedside cart system will maximize the clinical time spent by nurses with their respective patients, save time to complete tasks and result in better transfer of care. Methods: We designed a unique portable cart able to be stocked with commonly used patient care equipment. It has specifically designed, Pre-packed and named cabinets. We then proceeded to have a mock-standardized and subjective assessment with questionnaire (score ,0 easy and 10 difficult).

Results: Three nurses were randomly selected and assigned to three separate mock drills namely new admision, patient care and hand over . We standardized the tasks. The results with cart Vs without cart were, 10s Vs 40s to start oxygen by mask, 40s Vs 70s to start monitoring, 50s Vs 160s for starting IV fluid, 60s Vs 120s for blood smple collection, 70s Vs 100s for administrtion of antibiotic, 7s Vs 30s for initiation of back care , 145s Vs 18s for file handover and 25s Vs 30s for inventory handover. The results of subjective assessment were , new admission average score was 0.09 with cart Vs 4.38 without cart , in patient care it was 0.61 with cart Vs 5.19

without cart and in handover it was 0 with cart Vs 3.4 without cart. Conclusions: We noticed that this new cart system can significantly increase the time spent by the nurse with each assigned patient which results in increased early detection of bad physiology, proper medication, less medication errors and significant improved outcome.

F04

IMPLEMENTATION OF LOW TIDAL VOLUME VENTILATION IN AN INDIAN ICU

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Background: Literature suggests that ventilating patients with tidal volumes >6ml/kg can lead to increased incidence of ventilator induced lung injury in all groups of critically ill patients and increase mortality in ARDS. We report the results of a quality improvement project for uniform implementation of a protocol mandating a tidal volume of <6ml/kg in all mechanically ventilated patients.

Methods: This study was conducted in a 23 bedded medical-surgical ICU of a tertiary care hospital having semi-closed intensive care units from Nov 09 to Oct 10 . We analysed tidal volumes of ventilated patients over one year. The heights of all patients were measured, ideal body weights and target tidal volumes were calculated as 6 ml/kg ideal body weight and marked prominently on the nursing chart in red. Nurses and junior doctors were trained. A daily check list of tidal volume on a CQI (Continuous Quality Improvement) form was maintained by the consultant. Results: 298 Patients were ventilated during the above mentioned period of time comprising 1825 ventilator days. 46.64% of ventilator days the patients were being ventilated at a higher tidal volume during the pre intervention period. After the quality improvement initiative our number of ventilator days with high tidal volume progressively declined to 0.99% at the end of 1 year. (table 1)

Conclusion: Auditing our performance is the cornerstone of any quality improvement initiative. Simple interventions and consistent efforts can ensure low tidal volume ventilation and potentially protect patients from VILI. Table 1 Nov-09 46.64% Dec-09 27.47% Jan-10 33.12% Feb-10 27.89% Mar-10 19.7% Apr-10 33.12% May-10 8.69% Jun-10 18.62% Jul-10 8.48% Aug-10 7.95% Sep-10 4.92% Oct-10 0.99%

F05

ISCCM -MARS - MOBILIZATION-ANALGESIA-RELAXANT-SEDATION SURVEY – PRELIMINARY FINDINGS

Rajesh Chawla

MARS Study Group

Objective: As a study group we plan to evaluate the current concept and practices of sedation-analgesia-muscle relaxation and mobilization of critically ill patients in Indian ICUs with a nation wide web based survey.

Design and Method: The survey questionnaires were sent to 9452 physicians [critical care physicians and anaesthesiologists (who dedicate some of their time caring for critically ill in an intensive care unit (ICU)] from 1st Sept to 31ST November2012.. The database of the participating doctors was obtained from Indian Society of Critical Care Medicine (ISCCM) and Indian society of anaesthesa. Each of the registered members of the society was sent an E mail link through which they could access the internet based survey (MARS- Mobilization- Analgesia-Relaxation- Sedation). Repeat reminder was sent through E-mail to the non-responders after every seven days.

Results: The 568 responders constitute 6.129% of the total number of physicians contacted. About three fourth (74%) of the respondents were anesthesiologist who practice critical care and 7% of the respondents are primarily respiratory physicians and rest were from other specialities. Majority of the physicians were under 10 years (67%) in to their practice of critical care medicine .30 % of the total participating critical care physicians were attached to institutions that run a formal educational course in critical care medicine.

Majority of the participating ICUs are semi-open (52%) and open type (34%), whereas closed ICUs consist of only 14 % of the total. 61% of the physician state that they work in set up where there are more than one doctor for ten critically ill patients. Most common cause for ICU admission were sepsis with multiorgan dysfunction and acute respiratory failure(24% each).

55% of the participating physicians score their patients' severity and the most common scoring system used is APACHE II (39%). 72% of the practicing physicians have a dedicated physiotherapist in their team. Ananlgo-sedation is the most common approach for intubated patients . Both narcotic (fentanyl 25%) and non-narcotic (paracetamol 24%) are the common analgesics used. NSAID are the least commonly used analgesics (7%) . 36% of the physician sort for alternate analgesic methods and Epidural analgesia is the alternate method of choice. Midazolam is the most commonly used sedative (14%) followed by propofol and fentanyl (10 % each). Ketamine is the least commonly used in the group.

69% of the physician say that they use Dexmeditomidine as one of the sedating agents. Majority of the physicians (87%) do use paralysis in some of their patients and severe refractory hypoxia and ARDS (72%) constitute the major indication. 58% of the participating clinicians assess level of sedation and Ramsay's scale is most commonly used (38%).

Majority of the responders (67%) rate pain in their patients (most common scale used Visual Analouge Scale used by 23% physicians).

64% of the responders say that less than 10% of their patients experience delirium during their ICU stay but only 26% of them do an objective assessment of it by a scale (CAM-ICU 15%). Haloperidol (77%) is the most common drug used to treat delirium.

84 % of the critical care physician follow a protocol for weaning (physician driven in 80% cases) and this protocol is audited by 49% of the physicians. 79 % practice Spontaneous Awakening Trial (SAT) and 91 % perform Spontaneous Breathing Trial (SBT). SAT and SBT are performed within 48 hours by 46% and 41% of the physicians respectively.

Interestingly 93% of the participants think mobilization is important in recovery of critically ill and 85% regularly mobilize their patients Only 6% of the physicians do some sort of

mobilization in patients who are on ventilator and majority mobilize patients only after they are extubated.

CONCLUSION: This nationwide survey yields that majority of the physicians who practice critical care medicine in India are under the age of 40 years and are relatively new to their practice.

It also gives an overview of the current practice in the field of sedation, analgesia, paralysis and mobilization in critically ill patients. Narcotics and non-narcotics are equally used anagesics and NSAIDs are rightly avoided. Though Midazolam is most commonly used sedative, but the current evidence driven use of fentanyl, propofol and dexmedidomidine is encouraging. It is really encouraging to find that majority of critical care physicians in the country are pro-mobilization and mobilizing the critically ill are a routine practice in majority of Indian ICUs. However there is lot of scope of increasing mobilisation of patients on mechanical ventilation, which is practiced scarcely.

Neurology: F06 – F08

F06

VINAYAKA COMA SCALE, NEW COMA SCALE IN EMERGENCY ROOM

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Introduction: The Glasgow coma scale(GCS) has been widely adopted in all emergency department for initial assessment of patients. But GCS has some limitation as it not able to asssses the brain stem reflex which has significant role in prediction of out come of a patient.so Recommend new coma scale VINAYAKA COMA SCALE (VCS) which consist eye response, motor response, brain stem reflex and respiration pattern. Aim: To compare Vinayaka coma scale(VCS) and Glasgow coma scale(GCS) in assessment of out come of patient with neurological manifestation coming to ED in a multispeciality teaching university hospital.

Methodology: This prospective analytical study was done in tertiary care university teaching from march 2012- august 2012. all patient coming to emergency room with altered sensorium are in nerological manifestations were included. The patients who went against medical advice and those whose follow up not possible were excluded from the study. The admitting emergency physician was asked to fill up the predesigned proforma which contain the parameters – verbal response, motor response, respiratory pattern, and brain stem reflux appropriate later Glasgow coma scale and Vinayaka coma scale was derived and patients outcome was assessed on regular followup.

Result: Total 156 patient are rated with Vinayaka coma scale(VCS) and Glasgow coma scale(GCS) .Odd ratio of prediction of mortality in Vinayaka coma scale(VCS) is higher than GCS. ODD RATIO OF PREDICTION OF MORTALITY: Glasgow coma scale Vinayaka coma scale RTA 10.5 15.2 STROKE 2.04 9.33 ALTERED CONSCIOUSNESS 4.5 6

Conclusion: Vinayaka coma scale which is used as initial assessment of patient in ED by emergency physians is more useful in decision making of airway protection and prognosis of the patients of patient with neurological manifestation in ED.

F07

CROSS SECTIONAL STUDY OF HYPOKALEMIC PERIODIC PARALYSIS

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Objectives: To study the aetiological ,clinical and metabolic profile of hypokalemic periodic paralysis.

Methodology: A total of 22 patients were studied over a period of 18 months. HPP was defined as acute flaccid paralysis with documented hypokalemia during the episode and recovery following treatment. All the patients were subjected to detailed history,neurological exasmination and detailed evaluation for secondary causes of hypokalemic periodic paralysis.

Results: Out of 22 patients 13 were primary HPP and 9 were secondary HPP. PRIMARY HPP: ☐ Males 12 / Females 1 ☐ Mean age:28 years ☐ Mean duration of symptoms : 18 hours SECONDARY HPP: ☐ Males 6 / Females 3 ☐ Mean age:38 years ☐ Mean duration of symptoms : 60 hours ☐ CAUSES: 1) THYROTOXIC : 5 2) INFECTIVE DIARROHEA:2 3) CROHNS:1 4) CONNS:1 Total number of patients referred as GBS : 10

Conclusions: ☐ Our study had more patients with PRIMARY HPP and in patients with secondary causes THYROTOXIC HPP is the commonest cause. ☐ Patients presenting with long duration of symptoms , age > 30 years and females usually had SECONDARY HPP. ☐ PERIODIC PARALYSIS has a close similarity to GBS and should be excluded before starting therapy for GBS.

F08

HEAT-RELATED ILLNESS CLINICAL FEATURES AND OUTCOMES: A CASE SERIES

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Objective: ICU admissions due to heat related illness is common. We evaluated the clinical features and outcome of these patients admitted to our ICU.

Materials and methods: Study design: observational study We included all patients admitted during April to July 2012, with fever and neurological symptoms and absence of meningism. We excluded patients with features of infection in CSF analysis and neuroimaging studies showing acute CVA or CNS infections. Data on demographics, co-morbid illness, APACHE II, SOFA scores, echocardiography and neuroimaging studies were collected. Outcome data included, mortality, ICU length of stay (LOS), ventilator days, hospital LOS and discharge SOFA. Statistical analysis was done using student t-test, chi-square test and multi-variate analysis. Results: 26 patients were analysed. 15 were males. The mean age was 53.12 (±18.6) yrs (Mean ± S.D). Mean APACHEII was 19.6 ±7.7 and SOFA was 7.5 ± 2.6. Frequent co-morbid illness included hypertension (38%), diabetes mellitus (26%), neurological diseases (23%) and coronary artery disease (11.5%). The common presenting symptoms were neurological symptoms (100%), fever (88%) and gastrointestinal symptoms (30%). Incidence of organ dysfunction includes, neurological impairment (100%), raised creatinine (57%), hepatic impairment (34%), coagulation abnormalities (26%).No patient had an acute infection

on admission. MRI findings suggestive of heat stroke were seen in 6 of 26 patients. Mortality rate was 34%. 7 of 17 patients discharged had residual neurological impairment. Mean discharge SOFA was 2.43±1.5.

Conclusion: Heat-related illness had high mortality and significant neurological morbidity. No other significant residual organ dysfunctions were noted.

Nutrition: F09

F09

PREVALENCE OF MALNUTRITION AMONG ICU PATIENTS IN A TERTIARY CARE HOSPITAL IN INDIA

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Prevalence of malnutrition among ICU patients in a tertiary care hospital in India ABSTRACT Introduction: Malnutrition adversely affects clinical outcome of hospitalized patients. This observational prospective study was done to assess the prevalence of malnutrition and its grade among patients admitted in a mixed ICU of a tertiary care hospital. This would help in devising a comprehensive nutrition program for the malnourished. Materials and Methods: 500 sequential patients admitted to the ICU were screened on admission over a year period for malnutrition using the Subjective Global Nutritional Assessment (SGNA) score. Distribution of the degree of malnutrition according to co-morbidities was also documented. Results: 198 (39.6%) patients were found to be malnourished including only one patient qualifying as severely malnourished. 68% of the population was male, however, there was no statistically significant difference between nutrition status of he two genders. Hypertension, diabetes and cancer were the three most commonly encountered co-morbidities among the malnourished. 86% of all cancer patients admitted were malnourished against only 12% of trauma patients. Conclusion: This study showed that almost two thirds of the patients admitted were malnourished in this tertiary care hospital and there is an urgent need to develop a comprehensive nutritional care program in many such Indian ICUs.

Others: F10 - F22

F10

DEXMEDETOMIDINE VERSUS MIDAZOLAM INFUSION FOR SEDATION IN MECHANICALLY VENTILATED PATIENTS IN CRITICAL CARE SETTING: A RANDOMIZED CONTROLLED TRIAL.

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Introduction: Midazolam (GABA receptor agonist) is the most commonly used sedative for mechanically ventilated patients, but has various adverse effects. Dexmedetomidine, an alpha-2 agonist available for ICU sedation, may reduce the duration of mechanical ventilation and enhance patient comfort. OBJECTIVE:- To determine the efficacy of Dexmedetomidine versus Midazolam in

maintaining sedation; reducing duration of mechanical ventilation; side effects if any.

Method: We have studied 60 patients of ASA I & II of either sex between age group of 18 to 65 years. The patients were devided into two groups and sedated with Dexmedetomodine (loading dose of 1 mcg/kg over 10 minutes and maintenance dose of 0.2 to 0.7 mcg/kg/hr) or Midazolam (loading dose of 10 to 50 mcg/kg slow i.v. and maintenance dose of 20 to 100mcg/kg/hr). Study drugs were titrated to achieve the desired level of sedation, measured using the Richmond Agitation-Sedation Scale (RASS). Patients were monitored for delirium using the Confusion Assessment Method for the ICU (CAM-ICU).

Result: Dexmedetomidine attained the sedation target range more frequently than Midazolam at a targated Richmond Agitation-Sedation Scale range. In Dexmedetomidine treated patients, the median time to extubation was shorter ($P < 0.05$ which is clinically significant) and the prevalence of delerium was lower than in patients treated with Midazolam. The most frequent adverse event in the Dexmedetomidine group was bradycardia and hypotension.

Conclusion: From the clinicians and patients perspectives, Dexmedetomidine is a safe and acceptable sedative agent for those requiring intensive care with short median duration of mechanical ventilation and lower prevalence of delirium.

F11

IMPACT OF TELE-ICU/E-ICU ON ANTIBIOTIC STEWARDSHIP

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Introduction: Antibiotic resistance is a major challenge being faced by every clinician today; Tele-ICU/E-ICU which is used to support patients remotely was used to optimize antibiotic usage in ICU.

Material and methods: Retrospective observational study from October 2011 to July 2012 in Raipur Heart command centre (HCC), having 10 beds. All patients admitted to HCC were tracked, baseline characteristics, APACHE II score and antibiotics used were recorded and statistically analysed and compared with pre and post Tele-ICU/E-ICU implementation in which modified rational use of antibiotics was suggested for all patients getting admitted. (Antibiogram was established, staff training, daily Tele medical rounds with doctors along with documentation, CME on rational antibiotic usage, de-escalation teaching, monthly review of data).

Result: In our analysis baseline characteristics of patients were similar. From October 2011 to February 2012 (pre Tele-ICU/E-ICU) total 435 patients were admitted (mean APACHE II score 8) of which 344 (79.02%) patients received antibiotics of which carbapenam usage was in 283 (82.26%) patient. From March 2012 to July 2012 (post Tele-ICU/E-ICU) total 432 patients were admitted (mean APACHE II score 9) of which 266 (61.57%) patient received antibiotics of which carbapenam usage was in 98(36.84%) patient. After Tele-ICU/E-ICU implementation, with smart oversight antibiotic usage decreased from 79.02% to 61.57% (P <

0.001), P value significant. Among all antibiotic usage carbapenam decreased from 82.26% to 36.84% (P < 0.001), P value significant. (Chi-square test was applied, P value < 0.05 was considered significant).

Conclusion: While the impact of Tele-ICU/E-ICU as a solution to provide remote critical care cannot be doubted, the true benefit will be realized by additional value adds in the form of antibiotic policy modification and quality changes as documented above. We intend to continue to monitor such impact and standardize protocols to improve efficacy going forward.

F12

IMPACT OF AN ICU-LED MEDICAL EMERGENCY TEAM (MET) ON OUTCOMES IN AN INDIAN CORPORATE HOSPITAL

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Objectives: We introduced a Medical Emergency Team (MET) in our hospital in January 2012 for early identification of and intervention on patients who might be at risk of deterioration in the wards. This study was undertaken after six months of MET implementation to assess its impact on patient outcomes.

Materials and Methods: MET calls were activated according to pre-defined criteria. Upon receiving a call, MET personnel assessed patients and carried out interventions as appropriate, including transfer to an intensive care area if required. Follow up of patients who continued to receive care in the wards was carried out during regular MET rounds, four times a day. Data collected included the incidence of "unexpected" cardiac arrests, hospital mortality, ICU mortality and ventilation days during the six months prior to and six months after implementation of MET.

Results: We received 899 calls during the first six months of MET implementation. Most calls originated from the high acuity care wards of the hospital. The majority of patients (75.3%) received continued ward care with regular MET follow ups. "Unexpected" cardiac arrests in the wards decreased significantly during the first six months post-MET compared to six months pre-MET (0.82 Vs 2.4 per 1000 hospital admissions; p=0.0002). Pre Vs Post-MET hospital mortality (15.6 Vs 16.9 per 1000 hospital admissions; p= 0.43), ICU mortality (15.9 Vs 15.1%; p=0.8), ventilation days (Median (IQR): 3, (1.2-6) Vs 3, (2-6); p = 0.73) and ICU days (Median, IQR: 4, (3-8) Vs 4, (1-8); p-0.7) did not change significantly during the same period.

Conclusions: The introduction of MET resulted in a significantly lower incidence of "unexpected" cardiac arrests in the wards. Hospital and ICU mortality, ICU days and ventilation days did not change significantly during the same period.

F13

THE OXIDATIVE STRESS DETERMINED THROUGH THE LEVELS OF ANTIOXIDANT ENZYMES AND THE EFFECT OF N-ACETYLCYSTEINE IN ALUMINIUM PHOSPHIDE POISONING

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Objectives: The study was aimed to determine the serum level of antioxidant enzymes and to correlate them with outcome in patients of aluminium phosphide (ALP) poisoning and secondly, to evaluate the effect of N-acetylcysteine (NAC) given along with supportive treatment of ALP poisoning.

Design: A case control study in patients of ALP poisoning. The test group started in May 2011 and the control started in November 2011; the study period ended April 2012 at tertiary care hospital Interventions: The oxidative stress was evaluated in each subject by estimating the serum levels of the enzymes viz. Catalase, superoxide dismutase (SOD) and Glutathione reductase (GR). The test group comprised of the patients who were given NAC in addition to supportive treatment (magnesium sulphate and vasopressors, if required), while in control group only supportive treatment was instituted. Primary end point was the survival of the patients.

Measurements and Results: The baseline catalase and SOD were reduced, however GR level was not reduced rather was increasing with due time, and more so in test group. The baseline catalase (P 0.008) and SOD (P <0.01) levels were higher among survivors than to Non-survivors. But, no association of outcome with baseline GR levels (P 0.064), but the levels on day 1 was associated with outcome (P0.017). Out of total, 31(67.4%) expired and 15(32.6%) survived. Survival rate was 45.8% (11/24) in test group and 18.2% (4/22) in controls (P 0.045). Among who expired, the mean duration of survival was 2.92±0.40 days in test group and 1.82±0.33 days in control (P.043).

Conclusions: This study suggests that the baseline level of catalase and SOD have reduced in ALP poisoning, but baseline GR level has not suppressed, rather is increasing with due time, and more so in test group. NAC along with supportive treatment has improved survival in ALP poisoning.

F14

DVT IN MEDICAL & SURGICAL CRITICALLY ILL ICU PATIENTS IN A TERTIARY CARE CENTER IN NORTH INDIA; INCIDENCE & RISK FACTORS.

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Objective: Incidence, and risk factors for lower extremity DVT among critically ill medical-surgical patients as they are at high risk of DVT because clinical signs are not very evident.

Design: Prospective Cohort study for one year (1st Nov 2011 30th Oct 2012)

Setting: Open medical & surgical ICUs.

Patients: We enrolled patients >18 yrs of age,expected to be in the intensive care unit for >48 hrs. Excluded were; CTVS patients, Diagnosed PE/ DVT Patients with Valvular heart heart disease / valve replacement , Recently (Within 48 hrs) thrombolysed patients or Acute MI and CVA, Other pregnancy, congenital coagulation disorders and terminally ill patients. Interventions: Included bilateral lower extremity compression ultrasound within 48 hrs. of ICU admission, thereafter twice weekly and if venous thromboembolism clinically suspected. Thromboprophylaxis was universal. We recorded DVT risk factors & APACHE IV score at baseline. Patients were followed to ICU discharge.

Results: Of the 500 patients, 4 developed DVT and one suspected of PE, CTPA was negative. All patients received DVT prophylaxis as per of their risk score. The mean age was 62.80± 12.09 Yrs. All DVT positive patients were asymptomatic and of these 3 were male. The incidence rate of DVT was 0.8% (95% CI;- 0.78- 0.81).The length of ICU stay was identified as an independent risk factor(Mean=26.75±12.87days and P< 0.010). The higher DVT risk Score (Mean = 10.75± 2.06 and P=0.0264), and APACHE IV score (Mean=59.25±15.06 and P=0.0292) were significantly associated with DVT.

Conclusions: In our setting (largest study of India) the incidence of DVT compared low (0.8 %) to the western population.Despite universal prophylaxis, medical & surgical critically ill ICU patients remain at high risk of DVT. Further research is needed to evaluate whether Doppler screening should be incorporated into the routine ICU care.

Key words;- DVT, CTPA, APACHE, CTVS,PE,CVA.

F15

PROBLEMS AND LIMITATIONS IN THROMBOLYSIS OF ACUTE STROKE PATIENTS AT A TERTIARY CARE CENTRE.

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Objective: To evaluate whether appropriate number of patients are thrombolysis within 1 hour of arrival to emergency room(ER). To identify reasons for delay in thrombolysis of acute stroke patients.

Materials and Methods: All patients admitted to ERwith symptoms suggestive of stroke from January 2011 to November 2012 were studied. Retrospective data was collected to evaluate ER to needle (DTN) time and reasons for delay in thrombolysis therapy in acute stroke patients. The following parameters were studied- i) Onset of symptoms to ER time, ii) ER to imagingtime (DTI), iv) ER to needle time (DTN) v) Contraindications for thrombolysis,

Results: 514 patientswith suspected stroke were admitted during study period. 91patients (17%, M = 64, F=27) arrived in ER within window period(<4.5 hrs.) 64(70.4%)were contraindicated for thrombolysis.Majority were intracerebral bleeds. 27(29.6%) were eligible for thrombolysis. 7(26%)were thrombolised within 1 hr. (DTN). Average onset of symptomsto ERtime: - 183.44. mins (median-195mins) Average DTI time:56mins(+49.66mins 95%CI is 35.94,76.06) median is 44.50mins, (P:0.0041).As compare to std DTI time (25mins). Average DTNtime:91mins (+ 41.39min 95% CI 74.85, 107.60) median80 mins (P:0.0094)as compare to std DTN time (60mins).

Conclusion: Factors contributedfor delay in thrombolysis are Absence of stroke education programme for common people Lack of priority for triage and imaging for stroke patients.

F16

GLYCEMIC CONTROL – IS INDIA SWEETER AND SAFER?

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Objective: Targeted blood sugar control (150–180 mg/dl) has been shown to improve morbidity and mortality in the ICU. However, feasibility, safety and outcome benefits of this strategy need to be evaluated in the Indian setting where nurse patient ratio may be suboptimal. Hence we sought to audit our glycemic control practices in an open, multi-disciplinary critical care unit (CCU).

Materials and Methods: Prospective observational study conducted at a tertiary care hospital between January to April 2012. Patients who were in the CCU for > 48hrs during this period were included in the study. Glycemic control was performed using either a standard CCU protocol or a physician driven insulin regime based on admitting physician's choice. Details including patients' demographics, severity of illness, daily glucose measurements, presence of sepsis, length of CCU and hospital stay were recorded for each patient. Day weighted mean glucose and mean variability were calculated using the blood sugar values.

Results: All patients Protocolized management Physician driven management Number of patients 105 64 (61%) 41 (39%) Mean age 58.9±14.12 57.5±15.01 61.1±12.6 APACHE Score 27.2±8.46 27.9±8.6 26.0±8.08 Day weighted mean (DWM) 178.5±47.8 168.8±40.03 193.8±55.02 Mean Variability 92.66±58.05 93.07±61.4 91.04±53.01 DWM ≥ 181mg/dl 47.6% 40.6% 58.5% Hypoglycemia 0.46% 0.43% 0.52%

Conclusion: Protocolised glycemic control is feasible, safe and widely accepted in the Indian setting. Large proportion of patients with day weighted mean blood sugar higher than recommended were seen and likely contributed to the very low incidence of hypoglycemia in our setting.

F17

ELDERLY IN ICU: HOW WELL DO WE TREAT THEM?

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Background: Paucity of data exists regarding prevalence, course, morbidity and mortality of elderly patients (age ≥ 65 years) admitted to critical care units (CCU) in our setting. In this study, we sought to explore and compare the epidemiology of elderly patients in our CCU to that of younger patients.

Methods: Retrospective chart review of all patients admitted to our multidisciplinary CCU between May and October 2012 was performed. Data including demographics, severity of illness, need for mechanical ventilation, CCU length of stay and mortality were collected. Non parametric (Kruskal-Wallis) test was used to compare the variables between the two groups.

Results: ≤ 64years† ≥ 65years† Number of Patients (N) 344 184 Mean Age±SD 43.97±13.2 72.83 ±6.80 APACHE II (Mean±SD) 25.31±10.3 29.24±9.7 % Medical (n) 96.5% (n=332) 93.5% (n=172) % Surgical (n) 3.5% (n=12) 6.5% (n=12) CCU Length of stay (Median) 4 days 5 days Predicted mortality (for the APACHE II scoring)* 51% 51% Actual Mortality 23% 26.60% Standardized Mortality Ratio (SMR) 0.45 0.52 % Ventilated (n) 58.7% (n=202) 51.1% (n=94) Actual Mortality in Ventilated patients 31.6% (n=64) 38.3% (n=36)

†There are no statistically significant differences between the groups in any of the outcome variables

Conclusion: A significant proportion (34.8%) of CCU patients is elderly. In our study, elderly patients did not have worse clinical outcomes compared to younger patients. Treatment decisions, therefore, should not be made solely on the basis of age in the critical care setting. *Data from Knaus WA et al. Crit Care Med 1985; 13:818-29.

F18

ROLE OF PRALIDOXIME IN ACUTE ORGANO-PHOSPHOROUS POISONING, A PROSPECTIVE RANDOMISED CONTROL STUDY

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Objectives: Organophosphate (OP) is one of the common modes of poisoning in India. The role of pralidoxime (PAM) in the management of OP poisoning is controversial and also expensive. We undertook a study to investigate the effects of pralidoxime in OP poisoing.

Materials & Method: Patients presenting with organophosphate poisoning to the ER in NH were consecutively randomized to either PAM and atropine or atropine only, on an intention to treat basis. Pregnant ladies were excluded.

Results and Statistics: 30 patients were enrolled . Mean age of the group which received only Atropine was 27.71years with SD of ± 9.762. Mean age of the group which received both Atropine with PAM was 31.07years with SD of ± 9.610 (p-value 0.360). The s.choline-esterase in group which received only Atropine was (5147.86 ± 5912.42)U/L & S.Choline esterase levels in the group which received both Atropine with PAM was (2070.8 ± 2215.63) (p-value 0.085 with unequal variance) The duration of ICU Days was (4.79 ± 3.81) in the atropine group and the duration of ICU stay in the Atropine and PAM group was (7.6 ± 3.66) (p-value 0.05). The duration of hospital stay in the group that received Atropine was (7.07 ± 4.514) and the mean duration of hospital stay atropine and PAM group was 9.4 ± 3.69 (p-value is 0.139).

Conclusion: In our study we have not found any advantage for using PAM with regard to Intermediate syndrome, ventilator days, ,total ICU stay and ICU mortality. Results from further recruitment of patients is awaited.

F19

PRESENTATION AND OUTCOME OF CYTOMEGALO VIRUS INFECTION (CMV) IN CRITICALLY ILL IMMUNOCOMPETENT HOSTS

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Objective: CMV infection in non-immunocompromised hosts has traditionally been considered to have a benign, self-limited course. However, in the medical literature there are a considerable number of reports of severe clinical manifestations of CMV infection in immunocompetent patients. We studied the clinical course and outcome of critically ill immunocompetent patient.

Materials and Methods: This is a retrospective observational study. We collected the data of CMV PCR positive patients from Jan 2012 to Dec 2012. CMV PCR was either tested in blood and BAL or Blood only or BAL only. 101 patients were clinically suspected, and out of the 101, 23 tested positive. 14/23 patients were eliminated because of immunosuppression.

Results: Male-female ratio was 1:1.2. 4(44%) patients presented with predominant respiratory symptoms, 3 (33%) presented with predominant gastrointestinal symptoms, 1(11%) patient presented with CNS symptom and 1(11%) with CVS involvement. APACHE on day 1 of ICU was calculated. The range of Apache was as follows. 5 were 5-9, 2 were 10-14, and 2 were 20-24. All the patients required invasive mechanical ventilation, except 1 who was managed on NIV. Only 5 patients were treated with Gancyclovir. Out of 4 untreated patients, 2 died before the results came and in the other 2 spontaneous resolution of symtoms were noticeable, when PCR results became available. 5 patients (55%) died of CMV infection of whom 2 were not treated with gancyclovir. 3 patients got discharged and 1 patient is still in ICU.

Conclusion: In our study group of patients with normal immunity respiratory and gastro-intestinal systems were commonly involved. In patients not responding to the empiric antibiotic regimen and who continue to deteriorate, blood, BAL and urine samples ought to be sent for CMV PCR and treatment with gancyclovir initiated promptly.

F20

SAFETY AND COST-EFFECTIVENESS OF ACITROM FOR DVT PROPHYLAXIS IN CRITICALLY ILL PATIENTS REQUIRING PROLONGED MECHANICAL VENTILATION - A PRELIMINARY EXPERIENCE

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Objectives: Oral anticoagulants have been used for treatment and preventing recurrent thromboembolism in cardiac and orthopaedic cases. Evidence regarding the safety and efficacy of oral anticoagulants for deep vein thrombosis prophylaxis in critical care settings is lacking. We tried to analyze the efficacy and cost-effectiveness of acenocoumarol (acitrom) in preventing deep vein thrombosis in patients requiring prolonged mechanical ventilation.

Materials and methods: Patients requiring prolonged mechanical ventilation admitted to our ICU over a period of one year were included. All underwent DVT probability risk assessment and received low molecular weight heparin along with acitrom 2mg/day for five days, followed by dosing adjustments until international normalized ratio (INR) of 2-3 was achieved. After achieving the INR, heparin was stopped and patients were maintained on acitrom only. Therapy was monitored with INR, bleeding complications and lower limbs Doppler study. Results: Forty-five neurological patients requiring prolonged mechanical ventilation were included. Mean duration of mechanical ventilation and ICU stay was 38.57±9.23 and 47.73±16.22 days respectively. None of our patient had any complication related to acitrom therapy or any evidence of symptomatic or asymptomatic (Doppler) deep vein thrombosis during ICU stay or during follow-up of 3 months. The cost of Acitrom including the cost of INR

monitoring was only 330 Indian rupees (INR) for a thirty day therapy.

Conclusion: Acitrom appears to be a suitable alternative to other available therapies for the prevention of DVT atleast in this particular subgroup of critically ill patients.

F21

PROTOCOLISED TRAINING IN CARDIOPULMONARY RESUSCITATION-THE UNENDING REWARDS

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Background: Internationally accepted CPR guidelines have been published and revised from time to time. Training programs based on these are being conducted at all levels to impart cognitive training and improve psychomotor skills to perform CPR.

Aim: The aim of study was to evaluate the effect of formal CPR training on outcomes of cardiac arrest.

Materials and Methods: AHA certified BLS and ACLS provider trainings were started at end of 2009 in our hospital for doctors in critical areas, which was extended to other specialties and staff nurses during further courses. During post-intervention period, one of the certified ACLS provider had to be a part of the code blue team. The study was performed over 6 years, 3 years pre-intervention (2007-2009) and 3 years post-intervention period (2010-2012). All in–hospital cardiac arrest patients during the study period were included. We compared the response time and outcomes of resuscitation.

Results: There were total of 1042 in hospital cardiac arrests in pre-intervention period and 1122 cardiac arrests in post-intervention period. In pre-intervention period, 278 patients were revived (26.67%), compared to 458 patients in post-intervention period (40.8%). Survival to discharge ratio was significantly improved from 23.4% in pre-intervention period to 66.6% in post-intervention period. Response time to code blue calls decreased from 4 minutes to 1.5 minutes after intervention.

Conclusion: Formal trainings in resuscitation have emerged as an aide to develop team concept, orientation to respond to the codes and better recognition and management of peri-arrest scenarios, thereby improving the CPR outcomes.

F22

IMPLICATIONS OF DEDICATED TRACHEOSTOMY CARE NURSE PROGRAM ON COMPLICATION RATES

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Tracheostomies are a common occurrence in critical care units, aimed to maintain a patent airway in a patient. Tracheostomy care needs a multidisciplinary approach, particularly involving the nurses. Aims : Our aim was to identify and train the nursing staff to care for tracheostomized patients round the clock in non-critical care areas, thereby aiming to decrease tracheostomy- related complications. Methodology: A tracheostomy care nurse program was improvised by the intensivists with an objective of improving care of tracheostomized patients, where in nursing staff from non-critical areas were selected for training purposes. The trainings included evidence-based knowledge & hands-on training of general tracheostomy management. A written assessment and a skill test was performed & nursing professionals were certified as 'Tracheostomy Care Nurses'. At least one of these tracheostomy care nurse was supposed to be responsible for all tasks relating to tracheostomy care in specific wards. A comparative data of 2 periods: A Pre-Intervention period from January 2011 to November 2011 and a Post-Intervention period from December 2011 to October 2012 was taken. Results: During pre-intervention period, out of 82 tracheostomized patients, 28 (34.15%) had complications including 20 (24.39%) readmissions to ICU. During post-intervention period, 107 patients had tracheostomy, out of which 7 (6.54%) had complications with only 2 (1.87%) readmissions. The number of decannulations increased during post-intervention period (25% vs. 15%). Conclusions: The support of a specialist tracheostomy nurse can decrease the complication rate and reduced readmissions to ICU.

Respiratory: F23 - F25

F23

VENTILATOR ASSOCIATED TRACHEOBRONCHITIS: EXPERIENCE FROM AN INDIAN ICU

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Introduction: Ventilator Associated Tracheobronchitis (VAT) is an entity, which has not been well studied especially from the Indian subcontinent. VAT represents an intermediate process between the colonization of the respiratory tract and development of ventilator associated pneumonia and per se is associated with significant morbidity, mortality and longer duration of ICU stay.

Materials & Methods: This is a prospective observational study carried out in a 60 bedded mixed ICU of a tertiary care hospital in India over 10 month period including 212 patients. All patients who were ventilated for >48 hours were included. VAT cases were identified by prospective surveillance of nosocomial infections. Clinical signs and symptoms included temperature >38°C, leucocyte count >12000 leucocytes/ mm or leucopenia (leucocyte count <4000 leucocytes/mm) plus new onset of purulent endotracheal secretions sans no new infiltrate on chest Xray.

Results: Out of the 212 patients 28 patients (13.2%) developed VAT. In the same period VAP developed in 24 patients (11.32%). The majority of the patients (58%) who developed VAT were patients with neurological or neurosurgical problems. Mean time to develop VAT from the time of mechanical ventilation was 7.3 days. The meantime from ICU admission to VAT onset was 10.7 days. The most common bacteria isolated from Endotracheal secretion of VAT patients was Acinetobacter sp. (40%), and Pseudomonas aeruginosa (40%), followed by Enterobacteriaceae. 100% of the Acinetobacter and 33% of Pseudomonas were MDR organisms.

Conclusion: The incidence of VAT in this Indian study was much higher than data from North American hospitals and calls for better infection control practices in this part of the world.

F24

REAL TIME ULTRASOUND GUIDED PERCUTANEOUS TRACHEOSTOMY - WITH AND WITHOUT BRONCHOSCOPIC CONTROL

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Objectives: To compare the safety and feasibility of percutaneous dilatational tracheostomy (PDT) done under real time ultrasound guidance, with and without bronchoscopic control.

Materials and Methods: Retrospective analysis of PDTs over an 18 month period was carried out. After preparation, the neck was viewed in the transverse axis using a 12 MHz linear probe and the thyroid, cricoid and tracheal cartilages were identified. The probe was placed over the first (T1) or second (T2) tracheal cartilage. The introducer needle was inserted immediately caudal to the probe at its midpoint, aiming entry between T1-T2 or T2-T3. After insertion of the guidewire, its position, as represented a clock face was noted. Entry between 11.00 and 13.00 was considered as "median" entry. The level of guidewire entry (T1-T3 or lower) was noted by turning the probe longitudinally. In the bronchoscope group, guidewire position was confirmed by fibreoptic bronchoscopy.

Results: Ninety five patients underwent PDT under real time ultrasound guidance with bronchoscope control (PDT – BR); 71 had ultrasound guidance alone (PDT-US). Needle to wire time was similar in both the groups (p=0.08); total procedural time was significantly shorter in the PDT-US group (p=0.03). Significantly more episodes of desaturation were observed in the PDT-BR group (p=0.01). Median entry, entry between T1 and T3 and number of attempts to pass the introducer needle were similar. PDT-US and PDT-BR groups did not show significant differences in the incidence of bleeding (5.6 Vs 7.3%), accidental extubation during the procedure (3.2% Vs nil) and tracheal stenosis at 2 months follow up (2.8 Vs 3.2%).

Conclusion: Bronchoscopic control did not add to the safety of real time ultrasound guided PDT; besides it resulted in lower oxygen saturation and longer procedural times. Real time ultrasound guidance prevents bronchoscope damage from the introducer needle leading to costly repairs.

F25

TIMING OF TRACHEOSTOMY IN ADULT NEURO TRAUMA PATIENTS UNDERGOING ARTIFICIAL VENTILATION AT A TERTIARY CARE HOSPITAL

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Objective: To compare outcome in critically ill adult neuro trauma patients undergoing artificial ventilation who received percutaneous tracheostomy Early (<5days) or Late (>5days) in their treatment course.

Materials and Methods: Duration of data extraction was from June 2010 to June2012 Analysis of records of patients who underwent tracheostomy and required artificial ventilatory support was done. Total no of patients (n=91). Early group (44) andLate group(47). The primary outcome measured in the study was mortality in hospital.. Secondary outcomes were duration of artificial ventilation, length of stay in the critical care unit and length of stay in hospital. Data analysis was done by using SPSS 17.0 (statistical package for social science). We also used Mann-Whitney test to compare the hospital stay, critical care unit stay and duration of artificial ventilation.

Results: Early tracheostomy did not significantly alter mortality.(relative risk 0.966,95% confidence interval 0.699 to 1.32) Early tracheostomy as compare to late tracheostomy significantly reduced 1) Duration of artificial ventilation (6 days vs 9 days, P=0.002), 2) Length of stay in critical care unit (10 days vs 20days, P=0.001) 3) Length of stay in hospital (15.5 days vs 30days, P=0.011).

Conclusions: In critically ill adult neuro trauma patients who required prolonged artificial ventilation performing tracheostomy at an earlier stage may shorten duration of artificial ventilation,length of stay in critical care unit and length of stay in hospital. However mortality was not significantly affected.

Sepsis: F26 - F28

F26

USE OF MOLECULAR DIAGNOSTIC TECHNIQUE USING 'MULTIPLEX NUCLIC ACID AMPLIFICATION' IN THE MANAGEMENT OF SEPSIS PATIENTS AT A TERTIARY CARE MEDICAL ONCOLOGY INTENSIVE CARE UNIT

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Several infections resulting into life threatening sepsis are very common among oncology patients due to variety of reasons including drug or disease induced bone marrow suppression apart from immune compromised status due to underlying malignant disorder. Early initiation of appropriate antimicrobial therapy remains as one of the corner stone of sepsis management. The conventional culture methods take significantly longer time for detection. Moreover positive viral or fungal cultures are extremely cumbersome in most practical settings. Syndrome Evaluation System (SES), a multiplex Nucleic Acid Amplification Test (NAAT) for identification of organisms causing sepsis has been developed by XCyton. SES allows for multiple amplification of most of probable organisms (DNA) that are known to cause sepsis and the amplified product is detected by hybridization of the targets and probes. SES is rapid with assay time of 7 hours and detects all common organisms accounting for 95% of all cases of sepsis.

Objective: This study was to test efficacy and effectiveness of SES in about 50 patients with suspected life threatening infections.

Material & Methods: This diagnostic tool was utilised in tertiary oncology ICU at HCG/Bangalore during July11 to Oct12.

Result: Culture results were 24+ hrs delayed than SES. Out of the samples, 40 BAL samples were mostly polymicrobial while most of the 20 CSF samples were uni-microbial. Results of SES were in concordance with cultures further were rapid, specific, sensitive and lead to change of the antibiotics from empirical to a guided therapy in number of cases. Finally the cost effectiveness were compared between results obtained from SES and conventional

culture. Further specifics will be shared and discussed.

F27

COMBINED BLOOD CULTURE AND MULTIPLEX PCR MAY POTENTIALLY OBVIATE NEED FOR DIAGNOSTIC BRONCHOSCOPY IN ICU PATIENTS WITH SEVERE SEPSIS AND SUSPECTED PNEUMONIA: A PILOT STUDY.

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Objectives: Evaluation of combined results of Bactec blood culture (BBC) and multiplex PCR (SES™ of Xcyton, Bangaluru) (M-PCR) results as useful surrogate of bronchoscopic bronchoalveolar lavage (BAL) culture in severe sepsis with suspected pneumonia.

Materials and Methods: Case records of ICU patients with severe sepsis with suspected pneumonia, undergoing bronchoscopy, where blood M-PCR had been obtained were retrospectively analysed. In 9 patients (10 episodes) concordance of combined results of blood M-PCR and BBC with that of BAL was ascertained.

Results: In 6 episodes M-PCR picked up same organisms that BAL did (only in three of them simultaneous BBC could do the same). In 2 episodes BAL culture was sterile but either BBC (1) and/or M-PCR (2) was positive suggesting primary blood stream infections. In one patient BAL revealed Stenotrophomonas maltophilia and BBC showed Citrobacter freundii neither being part of M-PCR panel. Similarly one BAL revealed Micrococcus species that was not picked up by BBC and is not on M-PCR panel. In three patients BAL specimens grew C. tropicalis (2) or C. Gullermondi (1) but were not identified by either BBC or M-PCR.

Conclusion: In 6 of 10 episodes M-PCR was concordant with BAL (only in 3 BBC too was concordant). They also identified correctly another 2 episodes that had negative BAL culture and simultaneously identified a blood stream infection. In two patients M-PCR (and BBC too) missed bacterial isolates in BAL as these organisms were not included in M-PCR panel. Though 3 BAL specimens had positive Candida isolates, only one was identified on BBC. This may be attributed to these being colonizers and hence in smaller numbers in the lungs. Hence, minimally invasive blood sampling for M-PCR and BBC together may help to avoid invasive procedure of bronchoscopy in sick ICU patients.

F28

IMPACT OF MULTIPLEX PCR ON DIAGNOSIS, MANAGEMENT AND OUTCOMES OF SEVERE SEPSIS AND SEPTIC SHOCK IN ICU

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Objectives: To compare multiplex PCR (SES™ of Xcyton, Bangaluru) (M-PCR) with Bactec culture (BC) in etiological diagnosis of patients with severe sepsis and septic shock and its impact on outcome. Materials and methods: Fifty eight bronchoscopic BAL and 15 blood samples (from 71 patients with 73 separate admissions) from adult patients with severe sepsis or septic shock were tested by Bactec culture and M-PCR. Empirical antibiotics were modified based on the results. Index infection, ICU, hospital outcomes were compared with matched controls.

Results: Samples were obtained from 71(73 admissions) study [mean ± SD age 57.44 ±18.8yrs] and 73control patients [age 61.37±16.47yrs]. There was no significant difference in the age (p=0.18), sex (49M in cases and 55M in controls; p = 0.36) APACHE IV score (85.52±30.92 vs.81.24±26.29; p=0.37) between the groups. Septic shock was seen in 65 cases (89.04%) and in 48 controls (65.75%); p=0.001). Index episode cure were 35(48.61%) in both arms (p = 1.0), ICU mortality 34 (46.57%) in cases and 30 (41.09%) in controls (p = 0.58) and hospital mortality 35(47.94%) in cases and 32 (43.83%) in controls (p = 1.0). M-PCR and BC detected a total of 270 and 56 microorganisms respectively. Between M-PCR and BC there was complete concordance in 37 (30.68%), complete discordance in 6 (8.21%), partial discordance in 4 (5.47%). BC was negative with positive M-PCR in 25 (34.24%), BC was positive and negative M-PCR in 1 patient (1.37%). Time to antibiotic therapy modification bases on M-PCR was 33.01 hours and that based on BC alone was 64.79 hours (p < 0.001).

Conclusion: Multiplex PCR helps in identification of greater number of organisms and early modification of empirical therapy. Despite higher percentage of septic shock in the M-PCR group the mortality was not significantly different in the two study arms.

Nursing: F29

F29

A RANDOMIZED TRIAL OF PROTOCOL DIRECTED PAIN MANAGEMENT IN THE INTENSIVE CARE UNIT

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Background : critically ill patients experience pain and discomfort in the intensive care unit. Unrelieved pain and also excessive drugs can result in adverse outcomes in these patients. So in this study, the pain protocol implemented by nurses to assess and manage pain in critically ill patients.

Material and Methods: In this clinical trial, 201 patients were entered and randomly allocated to protocol (96 patients) and control groups (105 patients). A multidisciplinary team approved a protocol. In the protocol group patients were assessed for pain by Behavioral Pain Scale (BPS) / Numeric Pain Scale(NPS) every one hour and managed pharmacologically as protocol. The patients in the control group were managed as the routine of the ICU.

Results: No significant difference was observed between the the protocol and the control group regarding the demographic characteristics and APACHE IV score. Fentanyl was significantly reduced in the protocol group from 1002.38±3774.43 versus 63.13±161.04. There was a reduction in the amount of other applied analgesics such as morphin, sufentanil and acetaminophen but it was not significant. The patient had no pain in 84% , mild pain in 11%, moderate pain in 3% and severe pain in 2% of total hours of ICU stay.

Conclusion: The implementation of a nursing –driven protocol of pain can improve the pain detected by the nurses and appropriate doses of analgesics to manage the critically ill patients.