Poster Presentations

Organisation/Outcome/Scoring

P001

A SURVEY ON PEDIATRIC INTENSIVE CARE UNITS IN CHINA

Fan Xun-mei* and Lu Zhong-yi#

* Beijing Children's Hospital Affiliated to Capital University of Medical Sciences;

The Children's Hospital Affiliated to Chongqing Medical University.

To understand the present status of pediatric intensive care in China, we conducted a survey between October and December, 1993, involving 20 hospitals in 14 provinces and municipalities. The results showed that there were totally 41 ICUs for pediatric patients, including 19 pediatric ICUs (PICU), 18 neonatal ICUs (NICU) and 4 pediatric surgical ICUs (SICU), with total of 403 beds. The physicians to bed and nurses to bed ratios were 1:1.5 and 1:0.91 respectively. The average number of equipment per bed was 0.47 ventilator, 0.34 multi-function monitor and 0.47 infusion pump. Very few of the ICUs had portable X-ray machine, biochemical and blood gas analyzers, and hemodialysis machines. The most frequently treated diseases/conditions were pneumonia, intracranial infections, post-operation and sepsis in PICUs, and neonatal pneumonia, hypoxic ischemic encephalopathy and sclerema in NICUs. Pneumonia and respiratory failure accounted for 33.29% and 26.50% of all the diseases/conditions treated in the ICUs and the mean case fatality rate of respiratory failure was 24.50%. The results of the survey suggest that there is shortage of ICU beds and modern equipment, and treatment is often delayed due to excessively strict criteria for mechanical ventilation. A set of simple, and nationally acceptable criteria for evaluation of severity and cure of the diseases/conditions is urgently required.

P002

A STATISTICAL STUDY OF 286 CASES ADMITTED TO PEDIATRIC INTENSIVE CARE UNIT: A 1 - YEAR EXPERIENCE

Deniz ANADOL, Serap ÇAMUR, Ramazan ÖZTÜRK, Ayşe KORKMAZ, İmran ÖZALP

The aim of this study is to document children admitted to the Pediatric Intensive Care Unit (PICU) of Hacettepe University İhsan Doğramacı Children's Hospital in a period of 1 year between January 1st, 1995 and December 31st, 1995.

The medical reports of 286 children were reviewed and each admission was analysed in terms of age, sex, diagnosis, management within the hospital, length of hospital stay and type of poisoning. The youngest age was 23 days and the oldest was 16 years. Hundred and twelve (39.5%) of the children were girls and 174 (60.5%) were boys. The most common (26.5%) reason of admission was intoxication among all of the cases and the greatest group (73.7%) of the poisoned children had ingested medication which was followed by another group of patients (9.2%) who had eaten mushrooms. The peak incidence of drug ingestion was salicylate intoxication (20%). Forty drug poisonings were accidental while 16 was intentional. The majority (82.4%) of the cases that committed suicide was between 12 and 17 years old, and the main cause of suicide was being unsuccessful at school.

We conclude that poisoning - especially salicylate intoxication - is still a major problem in Turkey and we believe that emphasis on the need to store all kinds of drugs in a secure place and re-examination of a child resistant packaging should help to reduce childhood poisoning significantly which is a preventable condition.

Hacettepe University İhsan Doğramacı Children's Hospital, 06100 Ankara, TURKEY.

P003

Limitation of life-sustaining treatment in a Dutch tertiary care children's hospital.

Minke E. van der Wal, Reinoud J.B.J. Gemke, A. Johannes van Vught. Department of pediatric intensive care, Wilhelmina Children's Hospital and Utrecht University Medical School, Utrecht, The Netherlands.

The circumstances of dying, divided in four groups (brain death [BD], failed cardiopulmonary resuscitation [failed CPR], death following a do not resuscitate order [DNR] and death following withholding or withdrawal of therapy [W/W]) were analysed in a Dutch tertiary care children's hospital. Included were all patients who died in the hospital, except those treated in the neonatal ICU (predominantly premature and SGA newborns) and those who died in the emergency room. Among a total of 7179 hospital admissions (excluding the neonatal ICU and emergency room), 99 patients died (1.4%). Of these 99 patients 73 (74%) died in the pediatric ICU, 18 (18%) in the ward and 8 (8%) in the operating room. A chronic underlying disease was present in 66 (67%). Withholding or withdrawal of therapy was implemented in 48 (48%) children, 27 (27%) died due to failed CPR, 20 (20%) were brain dead and 4 (4%) died following a DNR order. Justification for therapeutic restrictions in the 52 patients of the DNR and W/W groups was imminent death in 32 (62%), lack of future relational potential in 12 (23%) and excessive health burden in 8 (15%). Withdrawal or withholding of therapy was carried out by extubation in 46%, vasoactive drugs were stopped in 25%, and mechanical ventilation was withdrawn in 21%. Analgetics and sedatives were frequently used (in 73% and 79%, respectively). Hence decisions concerning restrictions of treatment are common in pediatric practice, mostly due to imminent death. Patients in which treatment was restricted were characterised by a longer hospital stay, a worse prognosis, a higher frequency of chronic underlying diseases and a lower acute mortality risk. Despite restrictions of intensive therapy, most patients were allowed to die in the pediatric ICU.

P004

MICROALBUMINURIA LEVELS ARE CORRELATED WITH PRISM SCORES IN PAEDIATRIC CRITICAL PATIENTS

A. Sarti, A.R. De Gaudio¹, M. Calamandrei, P. Martinelli, M. Cavuta, L. B. Faulkner, P. Busoni.
Paediatric Intensive Care Unit, A. Meyer Children Hospital, Florence
¹Institute of Anaesthesia and Intensive Care, University of Florence

Background. Microalbuminuria (MCA), a subclinical increase in urinary albumin, reflects glomerular and overall vascular permeability¹⁻². An increase in urinary excretion of albumin occurs after burns and trauma. Transcapillary albumin escape rate is also increased in response to elective surgery³ and in critically ill adult patients⁴. We investigated a possible relationship between urinary albumin levels and clinical instability, as measured by Pediatric Risk of Mortality (PRISM) scores.

Method. We studied 26 consecutive patients (median age of 13 months, range 2-100). Patients with nephropathies or any abnormality of urine analysis were excluded from the analysis. PRISM scores, MCA (mg.l⁻¹) (immunonephelometric) and urinary creatinine (Cu) (mmol.l⁻¹) (Jaffè) (48 hour collection sample) were determined within 48 hours from admission to the PICU. The MCA/Cu ratio (mg.mmol.l⁻¹) was used to correct for urine output variability. Diagnoses included respiratory failure (6), postoperative (5), neurologic (5), sepsis (4), trauma (3) and miscellaneous cases (3). Pearson's correlation was performed to correlate data.

Results and Conclusions. Mean PRISM score and MCA/Cu were 16.9 ± 5.9 SD and 100 ± 39 SD, respectively. A significant correlation was found between MCA/Cu and PRISM scores ($R=0.80$, $p<0.001$). Our observations show that, independently of the initial insult, the paediatric unstable patient may have increased capillary permeability, which is correlated with the degree of physiological derangement, as measured by PRISM scores. Microalbuminuria can be rapidly determined since it is routinely used in the management of diabetic patients, it is inexpensive, simple to measure and blood-sparing. Therefore, it might have a role in the clinical assessment of capillary permeability and transcapillary albumin escape rate.

References: 1. Fleck A. et al. *Lancet* 1985, i:781-4; 2. Shearman C.P. et al. *Br J Surg* 1988, 75:1273; 3. De Gaudio A.R. et al. *Anaesthesia* 1995, 50:810-12; 4. Brady J.A. et al. *Intensive Care Med* 1981, 7:291-5.

P005

EXPECTATION OF VENTILATORY SUPPORT-EXPERIENCE IN A PAEDIATRIC UNIT OF A TEACHING HOSPITAL IN NORTH INDIA

M Verma *, J Chhatwal *, LE Wilson **

*Christian Medical College, Ludhiana, Punjab; ** Royal Hospital for Sick Children, Edinburgh, EH9 1LF

Worldwide the demand for paediatric intensive care services exceeds the supply. In developing countries sporadic access to such services alters expectation of care and can lead to children being either mechanically or hand-ventilated in general paediatric wards.

The outcome of children requiring ventilation in a major teaching hospital in India was reviewed. Children were ventilated on an adult intensive care unit (AICU) if a bed was available, otherwise in the general paediatric wards.

Over a 4 year period 109 children were ventilated on AICU with 54 deaths. Yearly mortality rates varied between 43-58%. Over a 3 month period 37 patients were ventilated on the paediatric wards. Of the 15 patients over 4 weeks of age 11 died (Chi squared 0.1 > P > 0.05)

Reasons for the higher mortality rate on the paediatric ward likely include the higher patient:nurse ratio, and more limited resources. A predictor of mortality based on simple physiological observations without the need for expensive blood tests and including chronic health status would be a useful tool. The establishment of a paediatric intensive care unit is proposed to redress the balance of care.

P006

A REVISED THERAPEUTIC INTERVENTION SCORING SYSTEM FOR PAEDIATRIC INTENSIVE CARE UNITS.

Habibi B, Nadel S and Habibi P.

Department Of Paediatrics, St Mary's Hospital, London

Introduction: The Therapeutic Intervention Scoring System (TISS) was last revised in 1983. Since many more interventions are now widely used, this TISS underscores the more ill patients and consequently the resource use in today's intensive care units.

Aims: 1. To develop a revised TISS incorporating the additional interventions, 4 Point: Exchange blood transfusion, 3 Point: CSF drains, Cuirass ventilation, Small Particle Aerosol Generator, ETCO₂, Special bed/mattress, 2 Point: TCPO₂/TCPCO₂, Intra-osseous/intra-peritoneal fluids, Continuous infusion of sedative drugs in the non-ventilated patient, 1 Point: Scheduled Nebulised drug therapy, Cervical collar, Pulse oximetry, Continuous drug infusions

2. To use the TISS to validate Intensive Care Levels. Level 1: the non intubated patient, Level 2: the unstable or ventilated patient and Level 3 the ventilated and unstable patient (e.g. MOSF).

Patients and Methods: 223 consecutive patients admitted to the PICU were scored using a new proforma developed to include the additional interventions and to improve accuracy of collection of data by nurses. Maximum values for New and Old TISS (NTISS, OTISS) and maximum intensive care level was computed for each patient admission.

Results: NTISS correlated well with OTISS (R=0.984, y=0.053+1.158). There was no significant difference between mean values for OTISS and NTISS in Level 1 patients (P=0.12 paired t-test). For level 2 and 3 patients mean value of NTISS was greater than OTISS (P<0.0001). There was a significant correlation between levels using either NTISS or OTISS (mean difference Level 1 and 2, Level 2 and 3, (P<0.0001)).

Conclusions: A new TISS has been developed and used in a PICU. Nurses were able to accurately score the interventions on their shift. The assignment of patients to intensive care levels correlates with TISS values allowing a quantitative measure of severity.

P007

ASSESSMENT OF A PEDIATRIC INTENSIVE CARE UNIT USING THE PEDIATRIC RISK OF MORTALITY (PRISM) SCORE

C. Vasconcelos, L. Ventura, I. Fernandes, R. Valente, A. Marques, D. Barata

Lisbon - Portugal

To assess the performance of the Pediatric Intensive Care Unit of Hospital Dona Estefânia by an international standard score, the authors did a prospective study of 1149 consecutive admissions to the Unit during a period of 29 months.

Mean age was 50.63 ± 54.07 months; mean length of stay was 3.16 ± 5.59 days.

The effectiveness and efficiency were determined by the admission PRISM. Admission efficiency was defined by two criteria: a) mortality risk > 1% or b) the administration of at least one Intensive Care Unit-dependent therapy.

The cumulative observed mortality was 5.57% and the expected mortality was 5.97%, with a Standardized Mortality Ratio (SMR) = 0.933.

The overall performance of the PRISM score-based predictive model was found to be good (goodness-of-fit test χ^2 [5] = 6.387, p=0.271).

Of 1149 patients admitted, combining the two criteria (ICU-dependent therapy and mortality risk) an admission efficiency of 825 (71.8%) was found, equating to 3263 (89.94%) of 3628 ICU days.

CONCLUSION: In our study the assessment of the admission efficiency and of the effectiveness of the Unit was possible by using the PRISM score of admission.

P008

Preterm Birth at 25 to 32 weeks' gestation : neurological outcome and type of twin-placentation.

A. BURGUET*, A. MENGET*, E. MONNET**, J. JACQUIN*, C. FROMENTIN*, H. ALLEMAND**, JY. PAUCHARD*, ML. DALPHIN*.

* Réanimation Infantile Polyvalente CHU St Jacques 25030 BESANCON Cedex . ** Département de Santé Publique 25030 BESANCON Cedex, FRANCE.

Objective : to compare the rate of cerebral palsy (CP) between monozygotic-twins, dizygotic-twins and singletons born at 25 to 32 weeks' gestation.

Design : two-year prospective cohort study.

Setting : geographically defined study (region of Franche-Comté, FRANCE).

Main outcome measures : type of placentation was obtained by anatomopathological, or macroscopic examination of placenta and comparison of 6 twins' blood-groups. Neurological assessment was performed at two years of age (uncorrected for gestational age) by family doctor (pediatrician or physician), or neonatologist of the ICU at tertiary center.

Sample : 167 of 171 survivors aged of two years (98% follow-up rate), born between 09/30/90 and 10/01/92. Triplets and chromosomal malformation were non included.

Results : Thirteen (11%) of the 119 singletons had CP, vs 3/29 (10%) of dizygotic twins and 6/19 (32%) of monozygotic twins (p=0.04). Four of the 19 monozygotic twins (21%), 2/29 dizygotic twins (10%) and 4/119 (3%) singletons suffer from quadriplegia (p<0.01). In a multivariate approach, monozygotic twin placentation was the strongest risk-factor of cerebral palsy (OR=9.7, IC 95% = 2.4-39, p<0.01). Others risk-factors of CP were : lack of father's profession (OR 11, 1.2-105, p<0.03), maternal antecedent of abortion (OR 3.2, 1-10, p<0.04), vaginal delivery (OR 3.4, 1-11, p<0.03), hyaline membrane disease (OR 3.4, 1.2-10, p<0.02).

Discussion : this is the first population-based study to uphold the role of monozygotic twin-placentation as a strong risk factor of CP for premature infants. CP is more severe in monozygotic twins than in other infants. Mechanism of cerebral deficiency is not clear since none of our infants with CP was survivor of an in utero cotwin's death, and none of these infants was exposed to twin to twin transfusion syndrome. Were these monozygotic-twins affected by an undiagnosed neurological structural defect that could lead both to prematurity and handicap remains an open question.

P009**OUTCOME OF CRITICALLY ILL ONCOLOGY PATIENTS IN THE PICU**

I.A. von Rosenstiel MD, W.B. Vreede MD

Abstract: over a 5-years period 105 patients with malignancies were admitted to the PICU of Emma's Children's Hospital AMC: 63 (60%) were admitted for postoperative procedures and 42 (40%) for medical emergencies and intensive treatment. Overall mortality during PICU stay was 24%, in the postoperative group 16% and in the group with acute multi system failure 36%. The group of MOSF (42) consisted of hematologic malignancies (22) mortality rate 41%, solid tumors (20) 30%. Respiratory insufficiency was the most common PICU admission (40%) followed by cardiovascular insufficiency (26%) and encephalopathy (26%). The highest mortality rate was associated with encephalopathy (55%); the mortality of the combination of severe neutropenia in hematologic malignancy requiring ventilation was 52%. For patients with failure of four organ systems and severe neutropenia mortality rate was 64%. In oncologic children with life-threatening conditions and neutropenia timing of PICU admission and supportive therapy (incl G-CSF) must be improved for meaningful recovery during treatment in a PICU.

Academic Medical Center, University of Amsterdam, Emma Children's Hospital, Dept. of Pediatric Intensive Care, P.O. Box 22700, 1100 DE Amsterdam, The Netherlands

P010

EVALUATION OF INTERNATIONAL E-MAIL DISCUSSION GROUPS FOR PRACTITIONERS OF PEDIATRIC AND NEONATAL INTENSIVE CARE
Carl G.M. Weigle*, Mary B. Zollo*, Peter Tarczy-Hornoch†

* = Medical College of Wisconsin, Children's Hospital of Wisconsin MS681, PO Box 1997, Milwaukee WI 53201. † = University of Washington, Seattle WA.

Introduction: Many e-mail based discussion groups exist on the Internet to provide medical professionals with a rapidly responsive medium for the international exchange of ideas relating to patient care. Several such lists each serve more than a thousand professionals in more than 30 countries, each distributing a dozen or more messages each day to every subscriber. There is very little known about the time being spent by professionals interacting with these lists, and very little known about the impact of the discussions on patient care. We wished to test the hypothesis that these discussion groups provide information which is being used to change the care of individual patients and the general approach to patient problems.

Methods: In early January 1996 a pilot electronic survey was sent to a small fraction (N=63) of the memberships of 2 e-mail discussion groups, PICU@its.mcu.edu, and NICU-NET@u.washington.edu (the full memberships of both groups (N=1439 for NICU-NET, N=1045 for PICU) will be surveyed in early February of 1996). Participants were asked for demographic information, experience and skill level relating to e-mail, time spent with the discussion groups, perceived usefulness of different types of discussions, and the ways in which the discussions were used clinically. The pilot study was analyzed for construct validity by correlating an overall assessment question with a summary of the specific questions. Scale reliability was measured by Cronbach's alpha statistic.

Results: The pilot survey response rate was 30/63 (48%). The majority of respondents were male physicians, with an average age of 39±5 years, who had completed subspecialty training in intensive care, and were working at a university-affiliated hospital. Most had been using e-mail for more than 6 months, and considered themselves moderately adept in that use. 63% felt that the list helped weekly to keep them informed about current issues and practices in their field(s), and 57% felt that, at least monthly, they used information from the list(s) that was not readily available in medical journals. Overall, 75% agreed that the list improved their professional competency. When asked to compare the value of 6 months of membership on an e-mail discussion group with more traditional educational media, 34% compared it with attending a national conference, and 26% compared it to a journal subscription. Cronbach's alpha was .76. Construct validity testing yielded coeff=.50, p<.05.

Conclusion: Internet-based e-mail discussion groups for health care professionals can be an important part of a strategy for maintaining professional competency. Despite the very low cost of this medium for most, the value is felt to be comparable to that of far more expensive forums for education. Further study will include distribution of the full survey in early February of 1996.

P011**TEACHING TEACHERS TO TEACH IN THE PICU**

I. David Todres, MD, Jon M. Courand, MD

A vital role of the intensivist is to ensure that knowledge and practice are imparted to trainees in the ICU so that patients receive optimal care. Teaching effectiveness varies widely leaving gaps in knowledge and practice in the trainee. Being an effective teacher should not be a "gift" of a privileged few. The ICU provides a fertile ground for using a variety of methods for teaching, e.g. didactic, at the bedside, emergencies, and in the performance of procedures. In this environment, much can be learned.

We have embarked upon a program to facilitate this learning process.

1) Teaching needs to be recognized as the foundation of good clinical care, i.e., patient related, and in its ability to generate discussion and research investigation.

2) Teaching structurally has many components including the speaker, audience, varying situations, and the message delivered.

3) Establishment of a program using these components to enhance teaching abilities at all levels. a) Evaluate base-line teaching skills initially. b) Individualize interventions to improve teaching skills. c) Demonstration of learned skills with re-evaluation. This process is analogous to the analysis of a clinical disorder in a patient which, once recognized, interventions are then instituted and then re-evaluated.

4) Instill the desire to use these attained skills to teach and interest others to teach. Teaching excellence should be recognized through awards, honors, and academic advancement.

A major emphasis of this program is to provide participants with skills necessary to teach thought processes, decision-making skills (what to do, what to avoid) and implementing appropriate management during stressful emergency situations common to the PICU.

P012**PEDIATRIC INDEX OF MORTALITY (PIM)**

Frank Shann, Tony Slater, Gale Pearson and the PIM Study Group

We have developed a new score for predicting the risk of mortality in children admitted to intensive care. The score is calculated from only seven variables collected at the time of admission to ICU: mechanical ventilation (yes/no), booked admission after elective surgery (yes/no), the presence of any one of 14 specified underlying conditions, both pupils fixed to light (yes/no), the base excess, the PaO_2 divided by the F_iO_2 , and the systolic blood pressure.

Most scores used to predict outcome in intensive care require the collection of a large number of variables (so many ICUs do not calculate them routinely), and they use the worst value of each variable in the first 24 hours in intensive care. This means they appear to be more accurate than they really are (about 40% of child deaths in ICU occur in the first 24 hours - so they are diagnosing these deaths rather than predicting them), and they blur the differences between units (a child admitted to a good unit who recovers will have a low score; but the same child who is mismanaged in a bad unit will have a high score - the bad unit's high mortality rate will be incorrectly attributed to its having sicker patients).

PIM was developed in the PICU at the Royal Children's Hospital in Melbourne, and has been tested in six other PICUs in Australia and one in the UK.

ICU, Royal Children's Hospital, Parkville, Victoria 3052, Australia.

P013

MULTIORGAN DYSFUNCTION SYNDROME IN CHILDREN: A REVIEW OF 173 CASES.

E.Mora, J.Casado Flores, J.García Pérez, N.González Bravo, M.Monleón, A.Serrano PICU. Hospital Niño Jesús. Autónoma University. Madrid. Spain

Objectives: To study the characteristics of the multiorgan dysfunction syndrome (MDS) in children.

Methods: A retrospective study with all the children with MDS diagnosed from January 1990 to June 1995 is presented. 173 children fulfilled the Wilkinson criteria (1). In all of them the number of organs affected and the PRISM score were determined during the first 24 hours. Several groups were performed according to the clinical diagnosis, the hospital of origin and the order of organs affected.

Results: The 173 subjects studied were an 8% of the Pediatric Intensive Care Unit admissions. 100 of them expired (58%). No differences in age, sex and weight were observed between the children dying and the survivors. The most common causes of MDS were sepsis, both nosocomial (25%) and meningococcal (14%) and acute respiratory failure. Sixty-five percent of the patients were from the hospital wards and the remaining were directly admitted to the PICU from the Emergency room. The systems affected were: respiratory (93%), cardiovascular (92%), hematologic (61%), central nervous system (52%), renal (43%) and (hepatic) liver (28%). The organs initially failing were: heart (39%), lung (28%) and central nervous system (18%). The children dying had a larger number of organs with failure than the survivors (3.89 v.s. 3.34, $p < 0.001$). The PRISM score was higher in the children expiring than in the survivors (22.4 v.s. 17, $p < 0.001$).

Summary: The MDS is a common pathology in PICU, with a high mortality. The mortality is higher in children with a larger number of organs affected and a higher PRISM score. Sepsis is the most common etiology.

(1) Wilkinson JD and Cols. Crit Care Med 1986; 14:271-4

P014

FOLLOW-UP CRITICAL ILLNESS AND BEREAVEMENT SUPPORT; A PARENTS PERSPECTIVE

I.A. von Rosenstiel MD, M.G.F. vd. Wal-v. Overbeek, R.P.G.M. Bijlmer MD

The aim of the present study was to describe the practice, attitudes and needs of parents for follow-up support after critical illness or death in children admitted to intensive care. Data were collected by a humanistic counsellor trained in bereavement care using questionnaires and home interviews. Two groups of parents were described, 42 concerning coping with critical illness 24 coping with bereavement. Analysis of data in the critical illness group demonstrated that 13/42 parents benefitted from the PICU follow-up support while 12/30 strongly missed ongoing support by PICU staff. 12/43 indicated a strong need for meetings with the PICU staff and/or fellow-sufferers. All 24 patients in the bereavement group highly appreciated the provided follow-up meeting with the PICU staff. 10/24 missed follow-up meetings with other parents. PICU care should therefore include a design for follow-up facilities for parents not only concerning bereavement care, but also follow-up support after critical illness. Arrangements should include individual support by PICU staff as well as parent support groups. Empathy and comfort seems as important as medical expertise.

Academic Medical Center, University of Amsterdam, Emma Children's Hospital, Dept. of Pediatric Intensive Care, P.O. Box 22700, 1100 DE Amsterdam, The Netherlands

P015

Multiorgane failure : a new score of severity in newborns and children. Preliminary study of faisability.

E. WERNER, JM TRELUYER, B. ZIMMERMANN, Ph. HUBERT, M.CLOUP USI. Hôpital Necker - Enfants Malades - Paris.

Methods : From June 1st to July 15th 1995, all patients admitted to the pediatric ICU were included. The score was measured at day 1 (D1) and day 3 (D3) and we used 10 variables.

For each organ system, we defined 2 categories : dysfunction or failure, which we respectively conferred 1 or 4 points.

Results : 56 patients were admitted : 22 newborns, 34 children. 23 were medical and 33 were surgical patients. 36 (64 %) patients had two or more organ failure at the admission. 12 (21,4 %) patients died, which 6 (50 %) in the first 48 hours. The mortality rate was the same for children with two or more organ failure at D1 and D3 : 6/36 (16,6 %) at D1, 4/22 (18,2 %) at D3.

The mean score is different for children who survived or who died : 8,6 versus 17,9 at D1 ; 10,6 versus 18,2 at D3.

When the score is ≥ 15 , the mortality rate is significant.

Conclusion : In this study, there is a good correlation between the score of severity and the mortality rate but we have few included patients. We need a prospective multicentric study to assess these results and we must compare this score to other scores of severity used in PICU.

P016

Validity of a Predictive Index (PRISM) in Brazilian Pediatric ICU

Pedro Celiny Garcia, MD; Eneida Mendonça, MD; Paulo Einloft, MD; Delio Kipper, MD; Jefferson Piva, MD & Renato Fiori, MD.

São Lucas Hospital, School of Medicine and Medical Postgraduation Course (Master of Science in Pediatrics) - PUC University - PoA- Brazil

Introduction: The evolution of Pediatric intensive care instigated the growing need of prognosis. The prognosis methods were valorized when we figured out that the subjective capacity of the physician to predict is poor.

Objective: To validate the Pediatric Risk of Mortality - PRISM model as a predictive method efficient for general and specified risk strata established in our population. **Design:** Prospective, observational, longitudinal, and comparative study of care, severity and outcome.

Setting: Twelve bed of a pediatric intensive care unit (PICU) within a 500 bed tertiary care hospital. **Patients:** Consecutive and unselected patients admitted in the PICU during the period from June 1st, 1993 to March 30th, 1994. **Interventions:** None. **Measurements:** The variables in study were: a) demographic data, b) severity in admission evaluation, c) therapeutic modalities, and d) patient physiology. The patient physiology evaluation was set by PRISM score (fourteen physiologic data). **Main results:** Forty hundred fifty eight patients were included.

The mean age was $41,9 \pm 46,3$ months, the mean staying time was $6,6 \pm 8,4$ days. The mean TISS in admission was $20,6 \pm 12,1$ and the TISS/patient/day was $22,6 \pm 9,3$. The mean of occupancy in PICU during study was 10,7 beds/day. The cumulative risk of mortality was 36,1 patients for a total death of 39 patients. The observed mortality was 8,5 %, and the expected was 7,9 %. The Standard Mortality Ratio was 1,08 ($z = -0,58$; $p > 0,100$). This agreement was confirmed by the Hosmer-Lemeshow goodness to fit test, for the total group of validation ($\chi^2 = 2,59$; $gl = 5$; $p = 0,76$). The analysis of the prediction power by construction of ROC curve shows the shape and the area under the curve ($Az = 0,90 \pm 0,02$) is similar to the original PRISM validation model. **Conclusion:** The PRISM is a predictive index valid to be assessed in our population, where the mortality and the survival indexes found were similar to the indexes estimated by PRISM.

P017

EXPERIENCE WITH INTENSIVE CARE UNIT IN PEDIATRICS
DR. ANJUM HASHMI, DR. SAJID MAQBOOL, DR. M. IDRIS MAZHAR
Department of Pediatrics, Shaikh Zayed Hospital

The department of Pediatrics at Shaikh Zayed Hospital, is an acute care area devoted to the treatment of children upto 13 years of age. On an average, 25-30% of those admitted to the ward require constant care and some form of cardiorespiratory monitoring. A six bedded "Intensive Care Unit" was organised to look after these children in September 1993.

With limited equipment, constant care was ensured by the presence of at least one nurse and one doctor round the clock. We present our experience of the first 18 months.

A total of 560 children were admitted to the I.C.U. comprising 23.66% of total pediatric admissions. A majority (63.1%) were males, were below 1 year of age (67.14%) while 27% were neonates. Most common reason for admission was, septicemia (30.71%) followed by diseases of CNS (20.71%) and respiratory problems (18.04%). The average duration of stay was 4 days and mortality 21.9%.

We conclude that those at highest risk seem to be the young infants and infections remain the commonest causes of very severe disease in children.