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Comparison of Three Prognostic Scoring Systems (PRISM, PIMII and PELOD) in Prediction of Mortality of Children Admitted to the Pediatric Intensive Care Unit in Children Hospital; Ain Shams University

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Fatma Mohamed El-Sayed

List of Abbreviations

ACEP	American college of emergency physicians
ACTH	Adrenocorticotropic hormone
ADH	Anti-diuretic hormone
AIDS	Acquired immune deficiency syndrome
AMA	American Medical Association
AOA	American Osteopathic Association
APACHE	Acute physiology and chronic health evaluation
ARDS	Acute respiratory distress syndrome
ARF	Acute respiratory failure
ARF	Acute renal failure
ASMR	Age-specific mortality rate
ATN	Acute tubular necrosis
BIS	Bispectral index
BMT	Bone marrow transplantation
BSIs	Blood stream infections
CAUTI	Catheter-associated urinary tract
CDC	Centers for Disease Control and Prevention
CFU	Colony-forming units
CHD	Congenital heart disease
CHF	Congestive heart failure
CMM	Cancer Mortality Model
CMP	Cardiomyopathy
CNS	Central nervous system
CO2	Carbon Dioxide
CONS	Coaggulase negative staff
CP	Child–Pugh

CPA	Cardiopulmonary arrest
CPAP	Continuous Positive Airway Pressure
CPR	Cardiopulmonary resuscitation
CPR	Cardiopulmonary resuscitation
CRIB	Clinical Risk Index for Babies score
CSEP	Clinically suspected sepsis
CSF	Cerebrospinal fluid.
CVC	Central venous catheter
CVP	Central venous pressure
CVS	Cardiovascular
DIC	Disseminated intra-vascular coagulation
DKA	Diabetic keto-acidosis
DMD	Duchenne muscular dystrophy
DNR	do not resuscitate
DOA	Dead on arrival
DORA	Dynamic Objective Risk Assessment
DRGs	Diagnostic Related Groupings
DSN	Dialysis Surveillance Network
ECG	Electrocardiogram
ED	Emergency department
EEG	Electroencephalograms
EEGs	Electro encephalogram
EENT	Eye, ear, nose, and throat
EM	Emergency Medicine
EMS	Emergency medical services
ENT	Ear, Nose, & Throat
EPs	Emergency physicians
ER	Emergency room
EtCO2	End-tidal CO2
FiO2	Fraction of inspired Oxygen
GCS	Glasgow Coma Scale

GCS	Glasgow Coma Scale
GI	Gastrointestinal
HAI	Health care associated infection
HR	Heart Rate
ICP	Intracranial pressure
ICU	Intensive Care Unit
IOM	Institute of medicine
IU	International Unit
LOS	The length of stay
LRI	Lower respiratory tract infections
MASH	Mobile_Army_Surgical_Hospital units
MBP	Mean Blood Pressure
mEq/L	Milli Equivalent per Liter
mmHg	Milligram per deciliter
mmol/L	Millimole per Liter
MODS	Multiple organ dysfunction syndrome
MPM	Mortality Probability Models
MPM II	Mortality prediction model
MRSA	Methicillin-resistant S aureus (MRSA)
NaSH	National Surveillance System for Healthcare Workers
NHSN	National Healthcare Safety Network
NICU	Neonatal ICU
NMD	Neuromuscular disorders
NNIS	National Nosocomial Infection Surveillance System
P	Probability value
PaCO2	Partial Pressure of Carbon Dioxide Tension
PaO2	Partial Oxygen Tension In Arterial

	Blood
PELOD	PEdiatric Logistic Organ Dysfunction
PEMOD	PEdiatric Multiple Organ Dysfunction
PICANET	Pediatric Intensive Care Audit network
PICU	Pediatric intensive care unit
PIM	The Pediatric Index of Mortality
PIMII	The Pediatric Index of Mortality II
PNE	Pneumonia
PO2	Partial pressure of oxygen
PPS	Prospective Payment System
PRISM	Pediatric Risk of Mortality
PSI	Physiologic Stability Index
PT	Prothrombin Time
PTS	Paediatric Trauma score
PTT	Partial Thromboplastin Time
PVC	Polyvinyl Chloride
RIFLE	Risk, injury, failure, loss and end-stage kidney classification
ROC	Receiver Operating Characteristic curve
RR	Respiratory Rate
S. aureus	Staphylococcus aureus
SAPS	Simplified acute physiology score
SBP	Systolic Blood Pressure
SENIC	Study of the Efficacy of Nosocomial Infection Control
SIADH	Syndrome of inappropriate secretion of antidiuretic hormone
SIRS	Systemic inflammatory response syndrome
SLOSR	Standardized length of stay ratio
SMA	Spinal muscular atrophy
SNAP	Score for Neonatal Acute Physiology

SOFA	Sepsis-related Organ Failure Assessment
SOI	Severity of illness
SSI	Surgical site infections
SST	Skin and soft tissue
TcCO2	Transcutaneous carbon dioxide tension
TcO2	Transcutaneous oxygen tension
TISS	Therapeutic intervention scoring system
UNICEF	United Nations Children's Fund
US	Ultrasound
UTI	Urinary tract infection
VAP	Ventilator-associated pneumonia
WHO	World health organization
µmol/L	Micro mole per liter

List of Figures

List of Tables

List f Contents

Introduction

Critical care has developed over the past 30 years with little rigorous scientific evidence about what is, or is not, clinically effective. Pediatric intensive care unit (PICU) is an important component of tertiary pediatric care services. PICUs aim at promoting qualified care for critically ill children. Following the rapid advances in medical therapy and critical care technology over past thirty years, coupled with the spiraling cost of medical care, outcome analysis including mortality risk prediction has become a challenge for the modern day intensivists ***(Fiser, 1996)***.

Critically ill patients are typically characterized by disturbances of body homeostasis. Both in adults and children, these disturbances can be estimated by measuring how much apart one or many physiologic variables are from the normal range. Composite scores can be constructed with such variables. Many types of scores have been developed. These scores consider some co-morbidities and physiologic disturbances at entry into PICU. Prognostic scores were developed to better describe the severity of illness and maximize prediction of the