Common Medical Errors in the Intensive Care Units

Essay

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Abstract

Introduction: The modern intensive care unit (ICU) is the highest mortality unit in any hospital. The ICU is also one of the sites in which medical errors are most likely to occur because of the complexity of care. Since the patient population is severely ill and undergoes multiple complex interventions at the same time, these patients are extremely vulnerable to experiencing adverse outcomes.

Aim of the Work: The objective of the following essay is to highlight the common medical errors in intensive care units, as well as how to avoid these errors.

Summary: Safety is a global concept that encompasses efficiency, security of care, reactivity of caregivers, and satisfaction of patients and relatives. Patient safety has emerged as a major target for healthcare improvement. Quality assurance is a complex task, and patients in the intensive care unit (ICU) are more likely than other hospitalized patients to experience medical errors, due to the complexity of their conditions, need for urgent interventions, and considerable workload fluctuation.

Keywords: Medical Errors, Intensive Care Units

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Hatem Mahmoud Sayed

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List of Abbreviations

ACEI	Angiotensin converting enzyme inhibitor
ADEs	Adverse drug events
ADRs	Adverse drug reactions
AEs	Adverse events
AKI	Acute kidney injury
ALI	Acute Lung Injuy
ARBs	Angiotensin receptor blockers
ARDS	Acute respiratory distress syndrome
ATN	Acute tubular necrosis
AV	Arteriovenous
BSI	Blood Stream Infection
CASS	Continous Aspiration of Subglottic Secretions
CDC	Centre of Disease Control
CMV	Continous Mechanical ventilation
CPOE	Computarized physician order entry
CR-BSI	Catheter Related Blood Stream Infection
CT	Computerized topography
CVC	Central venous catheter
CVCI	Cann't Ventilate Cann't Intubate
DIT	Drug induced thrombocytopenia
DVT	Deep Venous Thrombosis
ED	Emergency department

List of Abbreviations (Cont.)

EGNB	Enteric Gram Negative Bacilli
EPC	Error Producing Conditions
EPUAP	European Pressure Ulcer Advisory Panel
ESBL	Extended Spectrum Betalactamase
ETI	Endotracheal intubation
ETT	Endotracheal tube
FFB	Flexible Fiberoptic Bronchoscopy
FV	Femoral vein
GI	Gastro Intestinal
HIT	Heparin induced thrombocytopenia
HIV	Human Immunodefficiency Virus
ICP	Intracranial pressure
ICU	Intensive care unit
IJV	Internal jugular vein
IOM	Institute Of Medicine
IPC	Intermittent Pneumatic Compression
ITT	Intensive insulin therapy
IV	Intravenous
IVIG	Intra venous immunoglobulin
LDUH	Low Dose Unfractinated Heparin
LMWH	Low Molecular Weight Heparin
MCT	Medium Chain Triglycerides
MDR	Multidrug resistant

List of Abbreviations (Cont.)

MRSA	Methicillin Resistant Staphylococcus Aureus
MV	Mechanical ventilation
NNIS	National Nosocomial Infections Surveillance
PA	Pulmonary artery
PAC	Pulmonary artery catheter
PE	Pulmonary Embolism
PEEP	Positive end expiratory pressure
PN	Parentral nutrition
PrU	Preesure ulcer
REPE	Reexpansion Pulmonary Edema
RV	Right ventricle
SC	subcautenous
SCV	Subclavian vein
SEE	Sentinel Event Evaluation
SSI	Surgical Site Infection
SUP	Stress Ulcer Prophylaxis
TBLB	TracheoBroncheal Lung Biopsy
TCY	thrombocytopenia
TEF	Tracheoesophegeal fistula
THR	Total Hip Replacement
TI	Tracheal intubation
TKR	Total Knee Replacement
TPN	Total parenteral nutrition

List of Abbreviations (Cont.)

TR	Tracheostomy
TT	Tracheostomy Tube
UTI	Urinary Tract Infection
VALI	Ventilator-associated lung injury
VAP	Ventilator associated pneumonia
VIDD	Ventilator Induced Diaphragmatic Dysfunction
VILI	Ventilator-induced lung injury
VRE	Vancomycin Resistant Enterococci
VTE	Venous ThromboEmbolism

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Introduction

The modern intensive care unit (ICU) is the highest mortality unit in any hospital. The ICU is also one of the sites in which medical errors are most likely to occur because of the complexity of care. Since the patient population is severely ill and undergoes multiple complex interventions at the same time, these patients are extremely vulnerable to experiencing adverse outcomes ***(Halpern and Pastores, 2010).***

Sentinel events related to medication, indwelling lines, airway, and equipment failure in ICUs occur with considerable frequency. Although patient safety is recognized as a serious issue in many ICUs, there is an urgent need for development and implementation of strategies for prevention and early detection of errors ***(Valentin et al., 2006).***

As errors have become more visible and our patients continue to suffer preventable harm, patients, regulators, accreditators, and caregivers have grown frustrated. While there is broad consensus that faulty systems rather than faulty people cause most errors, healthcare workers struggle to find practical and sound ways to address and mitigate hazards ***(Marcucci et al., 2007).***

Aim of the Work

The objective of the following essay is to highlight the common medical errors in intensive care units, as well as how to avoid these errors.

Overview and Definitions

The modern intensive care unit (ICU) is the highest mortality unit in any hospital. There are approximately 4 million ICU admissions per year in the United States with average mortality rate reported ranging from 8-19%, or about 500,000 deaths annually. The ICU is also one of the sites in which medical errors are most likely to occur because of the complexity of care. Since the patient population is severely ill and undergoes multiple complex interventions at the same time, these patients are extremely vulnerable to experiencing adverse outcomes ***(Pronovost et al., 2002).***

In addition to its impact on mortality, critical care is a costly component of the national health care budget, with costs estimated to be $81.7 billion by 2005, accounting for 13.7% of hospital costs, 4.1% of national health expenditures, and 0.66% of the gross domestic product. ***(Halpern et al., 2010)***

There is a clear need for ICU physicians to improve their willingness and their ability to disclose errors of care in the ICU and to develop effective guidelines for managing these situations in the best interest of all parties Clarifying the causes of a disappointing outcome, acknowledging individual and system failures, and appreciating the impact on the patient are all difficult and humbling obligations. ***(Boyle et al., 2006).***

The term "error" has been previously defined. The Oxford dictionary of current English (1998) defines it as "mistake" or the condition of being morally "wrong". Error has also been defined in a wider context as "The failure in a planned action to be completed as intended or the use of a wrong plan to achieve an aim". Institute of medicine (IOM)