Relation between fluid balance and incidence of morbidity and mortality rates in critically ill patients prospective observational study

Thesis

Submitted in Partial Fulfillment for the Master Degree
in General Intensive Care

By

Mena Gerges Abdoh Gerges
MBB.Ch. – Faculty of Medicine, Zagazig University

Under the Supervision of

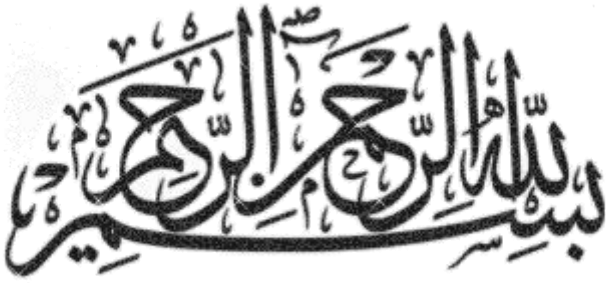
Prof. Dr. Hesham Mohammed Mahmoud Elazzazi
Professor of Anaesthesia, Intensive Care and Pain management
Faculty of Medicine, Ain Shams University

Prof. Dr. Mayar Hassan Said Ahmed Elsersi
Assistant Professor of Anaesthesia, Intensive Care and Pain management
Faculty of Medicine, Ain Shams University

Dr. Sameh Ahmed Refaat Mustafa
Lecturer of Anaesthesia, Intensive Care and Pain management
Faculty of Medicine, Ain Shams University

Dr. Mohamed Abd El-Monem Saeed
Lecturer of Critical Care and Emergency Medicine
Faculty of Medicine, Helwan University

Faculty of Medicine
Ain Shams University
2018



"وَمَا تَوْفِيقِي إِلَّا بِاللَّهِ عَلَيْهِ تَوَكَّلْتُ وَإِلَيْهِ أُنِيبُ"

(ايه ٨٨ سورة هود)

" أَمَّا أَنَا فَعَلَى رَحْمَتِكَ تَوَكَّلْتُ "

(مز ١٣:٥)

ACKNOWLEDGEMENT

First, and for most thanks to "**ALLAH**", the most merciful, gracious and compassionate, whose magnificent help is the main factor in every thing we can do in life.

I found no words by which I can express my extreme thankfulness, and deepest gratitude to ***Prof. Hesham Mohammed Mahmoud Elazzazi,*** *Professor of Anaesthesia, Intensive Care and Pain management, Faculty of Medicine, Ain Shams University* for suggesting the subject, his continuous encouragement, sustained unlimited support, wise valuable instructions and suggestions through this work. I feal greatly honored for working under his supervision.

It is difficult to express my deep appreciation and my great thanks to ***prof. Mayar Hassan Said Ahmed Elsersi,*** *Assistant Professor of Anaesthesia, Intensive Care and Pain management ,Faculty of Medicine, Ain Shams University* who guided me with patience and kindness, sacrificing time and effort to overcome all the obstacles, with sincere help and encouragement.

I would like to express my profound gratitude and deep appreciation to ***Dr. Sameh Ahmed Refaat Mustafa,*** *Lecturer of Anaesthesia, Intensive Care and Pain management, Faculty of Medicine, Ain Shams University* and ***Dr. Dr. Mohamed Abd El-Monem Saeed,*** *Lecturer of Critical Care and ER, Faculty of Medicine, Helwan University* without their precious advice and guidance, this work wouldn't have come to light.

I am also grateful to **all the patients** who agreed to participate in this project, without whom it would not have been completed.

Last but not least I would like to express my feelings of admiration, love and respect to **my wife and my parents** without their sacrifice and unconditioned love; I would have never been able to go a further step in my life. I would like to thank **all my professors, staff members and colleagues in Critical care and ER department** for their help, support and continuous encouragement. I also would like to extend my thanks to the **nursing Staff** for their irreplaceable help in collection of blood sample.

Mena gerges

DEDICATION

I dedicate this thesis

To my

Little angels

Marly & Martin

Beloved wife,

Great father,

Devoted mother,

Wonderful brothers

Who always believed in me more than I have ever believed in myself

To my friends

Who did for me much more than I can ever do for myself

And to every one

Who gives me the power to

Withstand

List of contents

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ABG	Arterial blood gas analysis
ACAA	Aromatic chain amino acids
ACES	Abdominal and cardiac evaluation with sonography in shock
ADH	Antidiuretic hormone
AKI	Acute Kidney Injury
ARDS	Acute respiratory distress syndrome
ARF	Acute renal failure
BCAA	Branched chain amino acids
BMP	Monitor basic metabolic panel
BUN	Blood urea nitrogen
CMP	Comprehensive metabolic panel
CO	Cardiac output
COPD	Chronic obstructive pulmonary disease
CPM	Central pontine myelinolysis
CRF	Chronic renal failure
CT	Computed tomography
CVP	Central venous pressure
CVVH	Continuous veno-venous hemofiltration
D5	5% dextrose
D5 1/2NS	5% dextrose in half amount of normal saline
D5LR	5% dextrose in lactated Ringer solution
D5NS	5% dextrose in normal saline
D5W	D.5% Dextrose in water
DOSE-AHF	Diuretic Optimization Strategy Evaluation in Acute Decompensated Heart Failure
ECF	ExtraCellular Fluid
ECG	Electrocardiogram
EN	Enteral nutrition
ETF	Enteral tube feeding
FB	Fluid Balance
FOCUS	Focused cardiac ultrasound
GRV	Gastric residual volume
HBOC	Hemoglobin carrying oxygen
HES/HAES	Hydroxyethyl starch
HOB	Head of bed
ICF	IntraCellular Fluid
ICUs	Intensive care units
IHD	Intermittent hemodialysis
IQ-R	IQ- range
IV	Intravenous
KUB	Kidney ureter bladder X-ray