

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

# بسم الله الرحمن الرحيم





MONA MAGHRABY



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## جامعة عين شمس التوثيق الإلكتروني والميكروفيلم قسم

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MONA MAGHRABY



# Comparative study between restrictive versus liberal intravenous fluid administration in severe sepsis and septic shock; a randomized clinical trial

Thesis

Submitted for Partial Fulfillment of Master Degree in Intensive Care medicine

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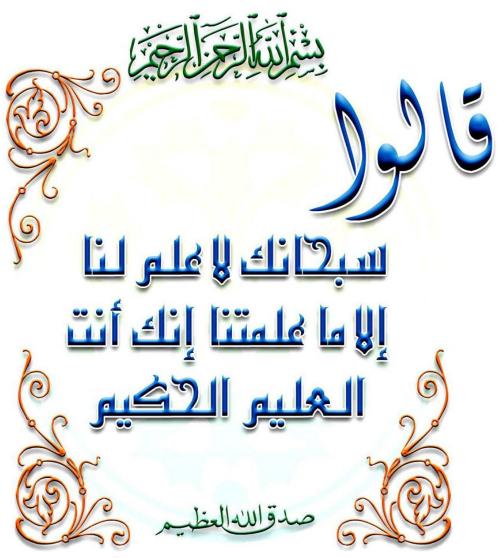
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سورة البقرة الآية: ٣١

#### Acknowledgement

First of all, thanks GOD, the merciful, the beneficent for helping me during this work.

I would like to express my indebtedness and deepest gratitude to **Prof. Bassel Mohamed Essam Noureldin,** Professor of Anaesthesiology, Intensive Care and Pain Management, Faculty of Medicine, Ain Shams University for his valuable advice, guidance and constructive criticism, also for the invaluable assistance and efforts he devoted in the supervision of this study.

I would like also, to express my great thanks to **Prof.Dr.**Mohamed Mohamed Nabil El shafei, Professor of Anaesthesiology, Intensive Care and Pain Management; faculty of Medicine – Ain Shams University. His valuable advises and continuous support facilitated completing this work.

I'll never forget how co-operative was **Dr. Fady Adib Abdelmalek Markos**, Assistant Professor of Anaesthesiology,
Intensive Care and Pain Management, Faculty of Medicine,
Ain Shams University. He was encouraging all the time. It is
honorable to be supervised by him.

Reda Mohamed Shaker Ahmed

#### Dedication

I would like to thank all the staff members of the Anaesthesiology, Intensive Care and Pain Management department.

Finally, I would like to express my appreciation and gratitude to all my family, especially my caring and Loving Parents and Wife who enlighten my life.

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#### List of Abbreviations

Abb.	Full term
ACTH	. Adrenocorticotropic hormone
AKI	Acute kidney injury
ALT	. Alanine aminotransferases
ARDS	. Acute respiratory distress syndrome
ARISE	. Australian Resuscitation in Sepsis Evaluation
CBC	. Complete blood count
CI	. Confidence interval
CI	. Collapsibility index
CLASSIC	. Conservative Versus Liberal Approach to Fluid Therapy of Septic Shock in Intensive Care
CP	. Central pressure
CVP	. Central venous pressure
DIC	Disseminated intravascular coagulation
DM	. Diabetes mellitus
EGDT	. Early goal-directed therapy
FEAST	. Fluid Expansion as Supportive Therapy
GGT	. Gamma-glutamyl transferase
Hb	. Hemoglobin
HCV	. Hepatitis C virus
HES	. Hydroxyethyl starches
HR	. Heart rate
ICU	. Intensive care unit
INR	. International normalized ratio
IV	. Intravenous
IVC	. Inferior vena cava
LFTs	. Liver function tests
LVEF	. Left ventricular ejection fraction
MAP	. Mean arterial pressure

## List of Abbreviations Cont...

Abb.	Full term
MODS	. Multiple organ damage
MP	. Microparticles
NF-B	. Nuclear factor-B
ProCESS	. Protocolized Care for Early Septic Shock
ProMISe	. Protocolised Management in Sepsis
PT/PTT	. Prothrombin time/partial thromboplastin time
RBCs	Red blood cells
RR	. Resting respiration
SAFE	. Saline versus Albumin Fluid Evaluation
SBP	. Systolic blood pressure
SIRS	. Systemic inflammatory response syndrome
SOAP	. Sepsis Occurrence in Acutely Ill Patients
SOFA	. Sequential Organ Failure Assessment
SSC	. Surviving Sepsis Campaign
SSSP	. Simplified Severe Sepsis Protocol
SvO2	. Venous oxygen saturation
TAPSE	. Tricuspid annular plane systolic excursion
TF	Tissue Factor
VASST	Vasopressin in Septic Shock Trial
WBCs	. White blood cells

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#### Introduction

Sepsis is one of the most common indications for intensive care unit admission worldwide and the third leading cause of death in the United States. While intravenous fluid administration has been recognized as an important part of sepsis resuscitation for over 15 years, there is growing concern that overly aggressive intravenous fluid resuscitation may be harmful to patients with severe sepsis and septic shock (*Dellinger et al.*, 2017).

#### **Definition of sepsis**

Systemic inflammatory response syndrome (SIRS) = a response to a variety of severe clinical insult. Temperature >  $38^{\circ}$ C or  $<36^{\circ}$ C, Heart rate >90 beats per minute, Respiratory rate >20 breaths per minute or PaCO<sub>2</sub> <32 mmHg, White blood cell count >12,000/cu mm, <4,000/cu mm, or >10% immature (band) form (*Dellinger et al.*, 2017).

Sepsis = the systemic response to infection manifested by two or more of the SIRS criteria as a result of infection (*Dellinger et al.*, 2017).

Severe sepsis =sepsis associated with organ dysfunction, hypoperfusion, or hypotension. Hypoperfusion and perfusion abnormalities may include, but are not limited to lactic acidosis, oliguria, or an acute alteration in mental status (*Dellinger et al.*, 2017).