
شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

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# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

# بعض الوثائق الاصلية تالفة


# بالرسالة صفحات لم ترد بالاصل

# Evaluation of early measurement of Granulocyte colony –stimulating factor and Interleukin,and its impact on the severity, prognosis and outcome of systemic inflammatory response syndrome .



Thesis

Submitted to

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For partial fulfillment of the requirements of

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By

**Dr. Galal Hassan Shalaby Abdel Naby**

MBBCh. M S.

Assistant Lecturer

Critical Care Medicine Department

Faculty of Medicine

Alexandria University.



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## *The Supervisors*


### *Prof Dr: Assem Abdel Razek Abd Rabbih*

*Professor of Anaesthesia and Intensive Care*
*Faculty of Medicine*
*University of Alexandria*

### *Prof Dr: Nagwa Mahmoud Elkobbia*

*Professor of Anaesthesia and Intensive Care*
*Faculty of Medicine*
*University of Alexandria*

### *Prof Dr: Salah Ahmed Marzouk*

*Professor of Clinical Pathology*
*Faculty of Medicine*
*University of Alexandria*

*CO-WORKER*

### *Dr: Emad Eldin Abdel Monem Aly*

*Assist. Professor of Anaesthesia and Intensive Care*
*Faculty of Medicine*
*University of Alexandria*

*I would like to dedicate this work to*

*my beloved Wife, my Mother*

*the soul of my Father,*

*& my kids Ahmed*

*& Adham.*

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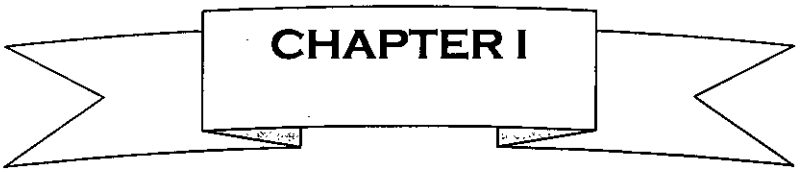
# *CONTENTS*

## List of abbreviation

| | |
|---|---|
| **ACCP** | American College of Chest Physician |
| **APACHE** | Acute physiology and chronic health evaluation |
| **ARDS** | Adult respiratory distress syndrome |
| **AT III** | Antithromin III |
| **ATP** | Adenosine Tri-Phosphate |
| **BUN** | Blood urea nitrogen |
| **cfu/mL** | Colony forming unit / mille liter |
| **$CO_2$** | Carbon dioxide |
| **$DO_2$** | Oxygen delivery |
| **ELISA** | Enzyme Linked Immunosorbant Assay |
| **$F_iO_2$** | Fraction of inspired oxygen |
| **G -ve** | Gram negative strain |
| **G +ve** | Gram positive strain |
| **G-CSF** | Granulocyte-colony stimulating factor |
| **GM-CSF** | Granulocyte-Macrophage-colony stimulating factor |
| **GFR** | Glomerular filtration rate |
| **GIT** | Gastro-Intestinal Tract |
| **ICU** | Intensive Care Unit |
| **IFN** | Interferon |
| **Ig** | Immunoglobulin |
| **IL** | Interleukin |
| **KDa** | Kilo Dalton |
| **LODS** | Logistic organ dysfunction score |
| **LPs** | Lipopoly- Saccharide |
| **MOD** | Multiple Organ Dysfunction Syndrome |
| **MODS** | Multiple Organ Dysfunction Score |

| | |
|---|---|
| **$MPM_0$** | Mortality Prediction Model on Admission |
| **$MPM_{24}$** | Mortality Prediction Model after 24 hours |
| **NO** | Nitric Oxide |
| **PAF** | Platelet Activating Factor |
| **$P_aO_2$** | Arterial Partial Pressure of oxygen |
| **PCT** | Procalcitonin |
| **PDGF** | Platelet Derived Growth Factor |
| **pHi** | Intra-mucosal pH |
| **PMNLs** | Polymorph Nuclear Leucocytes |
| **$P_sCO_2$** | Sublingual Capnometry |
| **PUFA** | Poly-unsaturated Fatty Acid |
| **rhAPC** | Recombinant human Activated Protein C |
| **REE** | Resting Energy Expenditure |
| **SAPS** | Simplified Acute Physiology Score |
| **SIRS** | Systemic Inflammatory Response Syndrome |
| **SOFA** | Sequential Organ Failure Assessment |
| **TGF** | Transforming Growth Factor |
| **TEE** | Total Energy Expenditure |
| **TNF** | Tumor Necrosis Factor |
| **$VO_2$** | Oxygen Consumption |
| **WBCs** | White Blood Cells |




# INTRODUCTION

# SYSTEMIC INFLAMMATORY RESPONSE SYNDROME

In 1991, experts from a variety of disciplines met for a consensus conference sponsored by the American College of Chest Physicians and the Society of Critical Care Medicine and proposed new definitions for sepsis and the adverse sequelae of sepsis. [1] The attendees recognized that sepsis was the systemic inflammatory response to a documented infection, but acknowledged that this response also may be observed in a number of other clinical conditions. [2-5] It was stated that sepsis was a continuum of injury response, ranging from sepsis to septic shock, to multi-system organ dysfunction syndrome (MODS). As patient progresses from sepsis to MODS, the associated mortality rate is expected to increase. [2]

**Definition of SIRS**:

The American College of Chest Physicians/Society of Critical Care Medicine consensus panel defined the systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, and septic shock [1-5] :

***Infection***: Infection is a microbial phenomenon characterized by an inflammatory response to the presence of microorganisms or the invasion of normally sterile host tissue by those organisms.

***Systemic inflammatory response syndrome (*SIRS):** is a widespread inflammatory response to a variety of severe clinical insults. This syndrome is clinically recognized by the presence of two or more of the following:

- Temperature >38 $^{O}$C or <36 $^{O}$C ,
- Heart rate >90 beats/min ,
- Respiratory rate >20 breaths/min or PaCO2 <32 mmHg,
- WBC >12,000 cells/mm3, <4000 cells/mm3, or presence of more than 10% immature (band) forms.

***Sepsis***: Sepsis is the systemic response to infection. Thus, in sepsis, the clinical signs describing SIRS are present together with definitive evidence of infection.

***Severe sepsis***: Sepsis is considered severe when it is associated with manifestation of organ dysfunction, hypoperfusion, or hypotension. These manifestations may include, lactic acidosis (lactate concentration of >2 mmol/L), oliguria (urine output of <0.5 ml/kg body weight for 2 hours), thrombocytopenia (platelet count of < 100,000 /$mm^3$ ), hypoxemia ($Pao_2/Fio_2$ of < 250) or an acute alteration in mental status without sedation.

***Septic shock***: Septic shock is sepsis with systolic hypotension (<90 mmHg) despite adequate fluid resuscitation combined with perfusion abnormalities that may include, but are not limited to, lactic acidosis, oliguria, or an acute alteration in mental status. Patients who are on inotropic or vasopressor agents may not be hypotensive at the time that perfusion abnormalities are measured.

***Multiple organ failure***: Multiple organ failure refers to the presence of altered organ function in an acutely ill patient such that homeostasis cannot be maintained without intervention. The multiple organ dysfunction syndrome is classified as either primary or secondary.

- Primary MODS is the result of a well-defined insult in which organ dysfunction occurs early and can be directly attributable to the insult itself (e.g., renal failure due to rhabdomyolysis).
- Secondary MODS is organ failure not in direct response to the insult itself, but as a consequence of a host response. In the context of the definitions of sepsis and SIRS, MODS represents the more severe end of the spectrum of severity of illness characterized by SIRS/sepsis.