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التوثيق الالكتروني والميكروفيلم

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بالرسالة صفحات لم ترد بالاصل

STUDY OF POST-TRAUMATIC AND POST-SURGICAL ABDOMINAL SEPSIS: CLINICAL, THERAPEUTIC, AND PROGNOSTIC ASPECTS IN CASES ADMITTED TO CRITICAL CARE MEDICINE DEPARTMENT IN ALEXANDRIA MAIN UNIVERSITY HOSPITAL

THESIS

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CONTENTS

Abbreviations

ICU	Intensive Care unit
GI	Gastro-intestinal
SIRS	Systemic inflammatory response syndrome
IAS	Intra-abdominal sepsis
PID	Pelvic inflammatory disease
PAF	Platelet activating factor
ACTH	Adreno-cotrico-tropic hormone
LPs	Lipopolysaccharides
PLAs	Phospholipase A2
ARDS	Adult respiratory distress syndrome
TNF	Tumour necrosis factor
IL	Interleukin
LTB4	Leukotrien B4
ARF	Acute renal failure
PNL	Polymorphonuclear leukocytes
PMNs	Polymorphonuclear neutrophils
MVO2	Oxygen consumption
NOS	Nitric oxide synthase
HES	Hydroxyethyl starch
HIV	Human immunodeficiency virus
TPN	Total parenteral nutrition
SIAS	Severe intra-abdominal sepsis
IVIG	Intravenous immunoglobulin
BPIP	Bactericidal permeability increasing protein
IL-1ra	Interleukin-1 receptor antagonist
PaO2	Arterial oxygen tension
PaCO2	Arterial carbon dioxide tension
HI score	Hypoxic index score
DIC	Disseminated intravascular coagulation
CSF	Cerebrospinal fluid
APACHE II	Acute physiology and chronic health evaluation II

INTRODUCTION

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Postoperative severe infectious complications are common causes of admission to the surgical intensive care unit (ICU). Patients in ICUs are, by the nature of their clinical status, much more likely to have nosocomial infections than the general hospital population.[1]

Although the straight line logic that infections led to sepsis which led to multiple organ failure, which led to death was operational in the past, more recently those concepts have come into question. It was reported that on 749 patients admitted to the ICU, 73 experienced multiple organ failure, although infection was very common in this subset of patients, there was no statistical relationship between any infection and death. Death was strongly associated with severe sepsis syndrome.[1]

Frequently, the occurrence of infectious complications or organ failure in a surgical ICU patient is closely associated with complications of operations previously performed, particularly, in patients who have undergone a gastrointestinal (GI) tract surgery with resultant anastomotic dehiscence, peritonitis, and intra-abdominal abscess.[1]

Significant improvement in the survival of patients with intra-abdominal infection was observed early in the 20th century; mortality rates fell from 90% to 50% to 40% primarily because of the realization that surgical

intervention was necessary to cure most intra-abdominal infections. The mortality rate has decreased only minimally over the last 50 years, despite the discovery and use of effective antibiotics and the advent of modern critical care.[1]

Sepsis is a systemic inflammatory response to infection mediated by the activation of a number of host defense mechanisms including cytokine network, leukocytes and the complement and coagulation systems.[2,3] This activation will result into the so called systemic inflammatory response syndrome (SIRS). This can be defined as constellation of clinical and laboratory findings present of varying degrees and include two or more of the following criteria:

1) Temperature > 38°C or < 35.5°C rectally).

2) Heart rate > 90 beats / min.

3) Respiratory rate > 22 breaths/min or on mechanical ventilation.

4) Hyperventilation; $PaCO_2$ partial pressure < 32 mmHg.

5) Alteration of leucocytic count > 15,000 cells/mm^3 or < 2,000 cells/mm^3 with or without immature neutrophils > 10%.

When infection is the underlying cause of SIRS, the condition is called sepsis. When sepsis is accompanied by dysfunction in one or more

vital organs, the condition is called severe sepsis. When severe sepsis is accompanied by hypotension that is refractory to volume infusion, the condition is called septic shock. This nomenclature can be summarized as follows:

Fever + Leukocytosis = SIRS

SIRS + Infection = Sepsis

Sepsis + Multiorgan dysfunction = Severe sepsis

Severe sepsis + Refractory hypotension = Septic shock

The major value of this nomenclature is to highlight the distinction between inflammation and infection; that is, sings of inflammation (SIRS) are not evidence of infection.[2]

One of the most important etiologies of SIRS is severe intra-abdominal sepsis which is usually associated with organ dysfunction, hypoperfusion or hypotension. Hypoperfusion and perfusion abnormalities may include-but are not limited to-lactic acidosis, oliguria, or acute alteration in mental status.[4]

Aetiology

A classification of the sources of intra-abdominal sepsis (IAS) is as follows:[5]

I- Primary peritonitis:

A. Infected ascitic fluid.

B. Infected peritoneal dialysis catheter.

C. Miscellaneous (e.g. pneumococal tuberculosis, PID of female).

II- Secondary peritonitis:

A. Intraperitoneal:

1. Biliary
2. Gastrointestinal tract
3. Female reproductive system

B. Retroperitoneal:

1. Pancreas
2. Urinary tract

C. Visceral abscess:

1. Liver
2. Spleen