Abstract

Background: Sepsis is a systemic, deleterious host response to infection leading to severe sepsis (acute organ dysfunction secondary to documented or suspected infection) and septic shock (severe sepsis plus hypotension not reversed with fluid resuscitation). Severe sepsis and septic shock are major healthcare problems, affecting millions of people around the world each year, killing one in four (and often more), and increasing in incidence. Similar to polytrauma, acute myocardial infarction, or stroke, the speed and appropriateness of therapy administered in the initial hours after severe sepsis develops.

Aims: The aim of this study is to highlight the importance of early recognition of sepsis and early appropriate administration of empirical antimicrobial agents with spectrum likely to treat the responsible pathogen effectively.

Mythology: Sepsis is defined as life-threatening organ dysfunction caused by a dysregulated host response to infection. This new definition emphasizes the primacy of the nonhomeostatic host response to infection, the potential lethality that is considerably in excess of a straightforward infection, and the need for urgent recognition.

Conclusion: The first protocoled step in the care of patients with septic shock is fluid resuscitation with the goal of restoring intravascular volume (and presumptively, preload). There are several methods to estimate volume status that are gaining support, such as ultrasound-guided assessment of the respirophasic variation of the inferior vena cava (IVC), and pulse-pressure variation (PPV). The second resuscitation endpoint in SS/SS is the establishment of a MAP of at least 65 mmHg. The third resuscitation endpoint for the treatment of septic shock is a SCVO2 of at least 70%, as a measure of the balance between tissue oxygen delivery and consumption.

Keywords: Concept of empirical, antimicrobial agents, critical ill patients**,** sepsis.

Contents

List of Abbreviations

AKI : Acute kidney injury

AmpC : Cephalosporinases

ARC : Augmented renal clearance

ARDS : Acute respiratory distress syndrome

BP : Blood pressure

CDI : Cardiac device infection

CMV : Cytomegalovirus

CNS : Central nervous system

CNS : Coagulase-negative staphylococcus

COPD : Chronic obstructive pulmonary disease

CPIS : Clinical pulmonary infection score

CRP : C-reactive protein

CSF : Cerebral Spinal Fluid

CT : Computed tomography

CVC : Central venous catheter

CVVH : Continuous venovenous hemofiltration

CVVHD : Continuous venovenous hemodialysis

CVVHDF : Continuous venovenous hemodiafiltration

DIC : Disseminated intravascular coagulopathy

Do_2 : Oxygen delivery

EGDT : Early goal directed therapy

ESBL : Extended-spectrum beta-lactamase producing bacteria

ESC : European Society of Cardiology

FDA : Food and Drug Administration

HAART : Highly active antiretroviral therapy

HCAP : Healthcare-associated pneumonia

HES : Hydroxyethyl starches

HIV : Human immunodeficiency virus

HR : Heart rate

HSV : Herpes simplex virus

ICU : Intensive care units

IE : Infective endocarditis

IL : Interleukins

INR : International normalized ratio

IV : Intravenous

IVC : Inferior vena cava

IVIGs : Intravenous immunoglobulins

KPC : K. pneumonia carbapenemase-producing

MAP : Mean Arterial Pressure

MIC : Minimum inhibitory concentration

MRSA : Methicillin-resistant S. aureus

MSSA : Methicillin-sensitive Staphylococcus aureus

NCSE : Non-Convulsive Status Epilepticus

NPV : Negative predictive value

OA : Open abdomen

PCT : Procalcitonin

PK : Pharmacokinetics

PPV : Pulse-pressure variation

PT : Prothrombin time

RR : Respiratory rate

RRT : Renal replacement therapy

RSV : Respiratory syncytial virus

SARS : Severe acute respiratory syndrome

SCVO2 : Central venous oxygen saturation

SIRS : Systemic inflammatory response syndrome

SLED : Sustained low-efficiency dialysis

SOFA : Sequential Organ Failure Assessment

SS/SS : Severe sepsis/septic shock

TAVI : Transcatheter aortic valve implantation

TNF-α : Tumor necrosis factor α

TOE : Transoesophageal echo-cardiography

UTIs : Urinary tract infections

VAP : Ventilator-associated pneumonia

Vd : Volume of distribution

VHF : Viral hemorrhagic fevers

VZV : Varicella-zoster virus

WCC : White cell count

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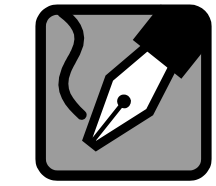

Introduction

Aim of the Work

Chapter (1)

Sepsis

Chapter (2)

Concept of Antimicrobial Agents Used in Critical Ill Patients

Chapter (3)

Serious Infection as Regard Systematic Affection

Summary

References