

Preface

Sepsis is a global public health problem; it generates more than 3,000,000 hospitalizations per year. Despite the advances in modern medicine, more than 5.3 million people die from sepsis annually. It remains the leading cause of death in critically ill patients in noncoronary intensive care units, with an estimated overall mortality of about 30%.

In order to face a problem of such magnitude, it is essential to have an objective, a clear and universal definition. Although the first description dates back to more than 3,500 years, it was only in 1992 that an effort was made to reach a consensus on a definition. From a definition by a consensus of experts in 1992, a switch was made to another one based on a compilation of clinical studies that included a large number of patients. We present a historical summary of the changes that the definition of sepsis and septic shock has undergone and the fundamentals of these changes. The latest publication in 2016, despite being a gigantic achievement, has been the subject of ample questions that show that the definition of sepsis is still under construction.

The present text aims to review the basic aspects of sepsis from its definition, the immunity in sepsis, and the implementation of biomarkers and their actual usefulness. We also reviewed the cost and overall impact of sepsis as well as the total economic cost of antibiotic resistance. Estimates vary but have ranged as high as \$20 billion in excess direct healthcare costs, with additional costs to society for lost productivity as high as \$35 billion a year (2008 dollars).

We present the extent of diagnostic imaging in the workup of sepsis, organ dysfunction, and mechanisms of resistance.

The information we obtain and extract from the antibiogram has a great clinical and epidemiological impact, because, on one hand, it serves as a guide to choose the antimicrobial treatment in an infectious process and, on the other hand, it avoids the use of other antibiotics in an unnecessary way, thus leading to a reduction in the ecological impact.

In one chapter, we develop the antibiogram and its objective, importance, and interpretation in the health environment. Finally we review the non-antibiotic management of sepsis and septic shock, the new strategies for training high-performance teams, and the role of simulation in sepsis.

We hope that this text will be useful to the kind readers and generates such a concern that will allow us all to diminish the great uncertainty existing about a pathology as old as not yet known.

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