Sepsis Epidemiology: Settings and Contexts

Ana Laís Lacerda Rulim¹, Marco Antônio Bezerra Rulim¹, Modesto Leite Rolim Neto¹, Pablo Pita¹, Isabelita de Luna Batista¹

Abstract

The development of strategies that goals the reduction of morbidity and mortality of patients with sepsis for health promotion depends of the visibility of the variables that interfere in the establishment of the disease, in the epidemiological local context. The study of sepsis is important because its clinical-microbiological epidemiology is dynamic, depends, for example, of epidemiological factors. Patients with severe sepsis presented a reduction in their quality of life due to the cognitive impairment.

Sepsis is defined as a set of signs and symptoms resulting from a systemic inflammatory response to a bacterial infection in the body or organic fluids [Faria; Conly; Surette, 2015]. It is characterized, among other aspects, by the involvement of signaling components, such as cytokines, chemokines, and growth factors. The interrelation of these mediators has a complex character, since it encompasses the simultaneity of pro-inflammatory and anti-inflammatory responses, particularly interleukins IL-6 and IL-10, respectively, cooperating for the organism’s balance attempt. [Fjell, et al., 2013].

The attempts to preserve homeostasis also reaches hemostatic levels. In sepsis, the coagulation cascade is activated as the anticoagulant and fibrinolytic pathways are inhibited. To offset the response, elements such as the C-endothelial protein receptor act by down regulation mechanism in coagulopathy and the inflammatory sepsis response. [Guitton, et al., 2013].

Macroscopically, the systemic inflammatory response syndrome is clinically recognized by a group of elementar features, namely: fever or hypothermia, leukocytosis or leucopenia, tachycardia and tachypnea. Early identification of these signs and symptoms is essential, because...
early diagnosis implies higher survival rates. [Vandijck; Decruyenaere; Blot, 2006].

In terms of mortality, the Brazil’s rate is quite high. Comparing it in patients hospitalized in an intensive care unit of different countries, a rate of 56.1% was observed in Brazil, comparing to Argentina (46.6%), Canada (30.3%), United States (33%) and Australia, with 22%. [Machado; Mazza, 2010].

The complications of sepsis are not limited to exclusively organic dysfunctions. Patients with severe sepsis presented a reduction in their quality of life due to the cognitive impairment that they had during the disease manifestation, which can cause: hallucinations, delirium, amnesia. The lapse of memory due to the pathology can leave the individual without explanations about functional changes that remained in him, which can lead him to depression and anxiety due to lack of certainty about his clinical improvement [Jones; Griffiths, 2013].

The study of sepsis in important because its clinical-microbiological epidemiology is dynamic, requiring that the health system be subject to constant improvement, which occurs through knowledge [Saravu, et al., 2015]. In addition, therapeutic management through empirical antibiotic therapy depends, for example, of epidemiological factors, such as the prevalence of a certain microorganism, which varies from region to region [Chen, et al., 2015].

Therefore, the development of strategies that goals the reduction of mobidity and mortality of patients with sepsis for health promotion depends of the visibility of the variables that interfere in the establishment of the disease, in the epidemiological local context.