

Introduction

- Sepsis concept was initially defined in the 90's as a systemic inflammatory response syndrome (SIRS) caused by an infection.
- This definition was recently revised because the European Society of Intensive Care Medicine and the Society of Critical Care Medicine considered that the old definition was characterized by a high sensitivity, but a limited specificity. It now refers to a life-threatening organ dysfunction caused by an inadequate host response to an infectious agent.
- The disease severity and the mortality rate are evaluated through **SOFA score (The Sequential Organ Failure Assessment score)**, being considered that more than 2 points are associated with a risk of death around 10%.
- Despite this fact, patients without sepsis with SOFA score more than 2 can be identified and also patients with sepsis and SOFA score under 2. The situation of septic patients with SOFA score less than 2 points is frequently found in community-acquired sepsis.

Objectives

- To analyze the characteristics of septic patients, pointing several prognostic factors and their correlation with the disease severity
- To establish the importance of the actual definition of sepsis in patients with community-acquired severe infection in a tertiary hospital in Romania

Methods

- Prospective study (Oct 2015 – Jul 2016)
- 55 patients admitted to “Prof. Dr. Matei Bals” National Institute for Infectious Diseases who met the old criteria for sepsis (at least 2 SIRS criteria plus clinical evidence of infection)
- The patients were divided into two groups: the first one with SOFA under 2 and the second with SOFA more than 2 points
- Clinical and biological data were comparatively analyzed between these two groups

Results

55 patients

- 1st group: SOFA score < 2 points
31 patients (56.36%)
- 2nd group: SOFA score ≥ 2 points
24 patients (43.64%)

Table 1. Demographic parameters

	1 st group	2 nd group	p value
Mean age (years old)	50.5 ± 17.4	67.5 ± 16	0.005
Sex ratio (M:F)	1:2.1	1:1.4	

Figure 1. Distribution of patients according to the primary infectious focus

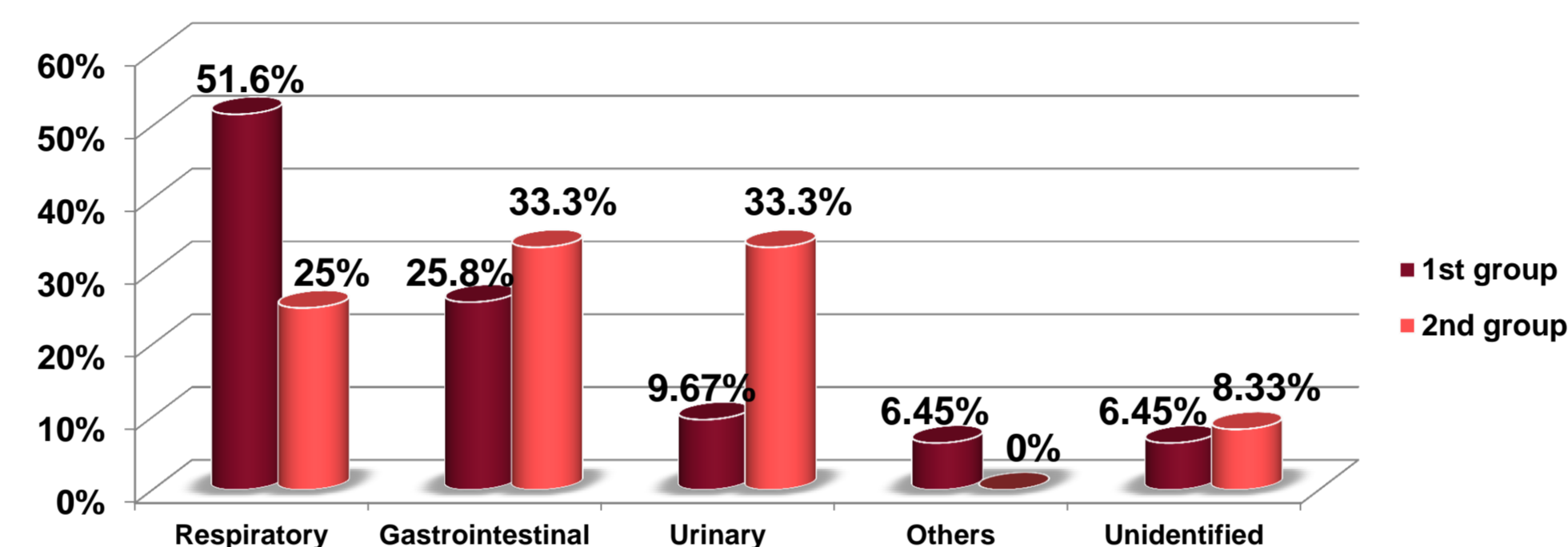


Figure 2. Distribution of patients based on the etiological agent

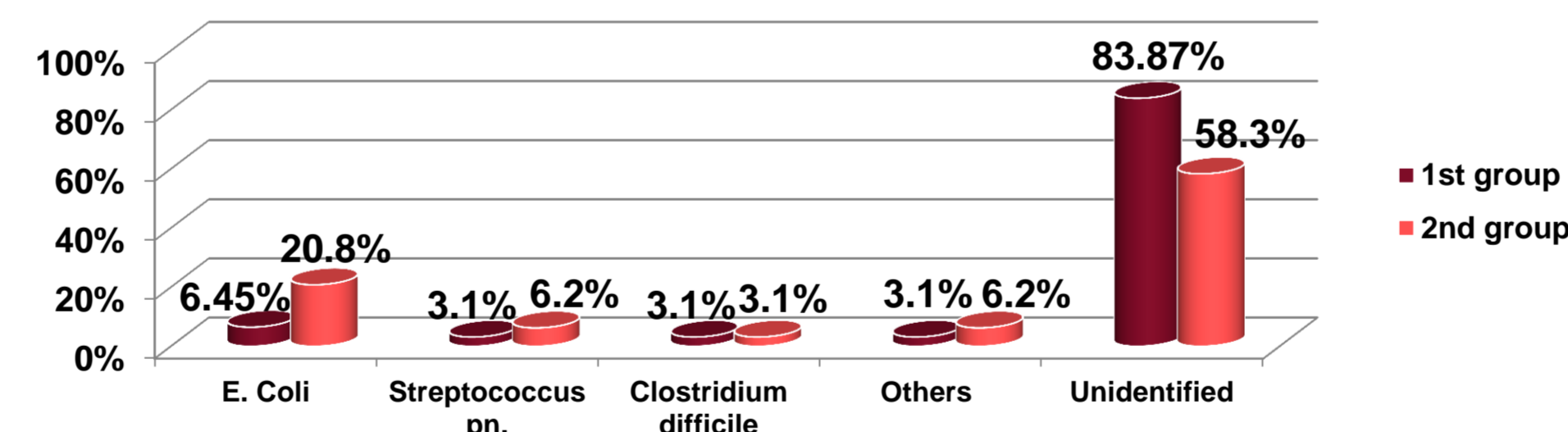


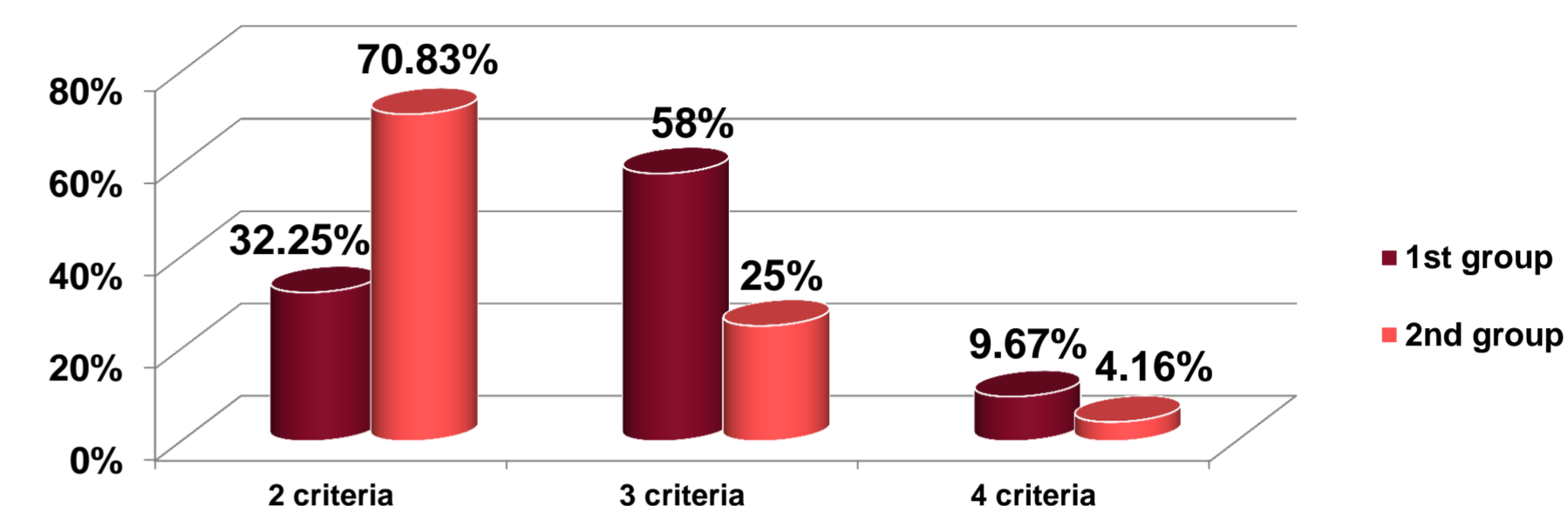
Table 2. Predictors of severity

	1 st group	2 nd group	p value
Number of SIRS criteria	2.77 ± 0.61	2.33 ± 0.56	NS
Organ failures	0.61 ± 0.61	1.29 ± 0.8	0.0007
Septic metastases	0.03 ± 0.18	0.04 ± 0.2	NS
APACHE IV* score	25.19 ± 8.01	39.5 ± 14.12	0.00001
APS** score	18.16 ± 7.08	25.12 ± 11.14	0.00001
Estimated rate of mortality (%)	3.48 ± 2.06	7.85 ± 6.61	0.01

*Acute Physiology And Chronic Health Evaluation

**Admission Point Score

Figure 3. Distribution of patients according to the number of SIRS criteria



- Although the disease severity was lower in the first group, 56.36% of patients diagnosed with sepsis by the old criteria did not meet the criteria for sepsis according to 2016 definition.
- Moreover, 17 patients in the first group (54.83%) had at least one organ failure and should be included in severe sepsis according to the old definition.

Table 3. Comparative analysis of several biological parameters (at admission) between the two groups

	1 st group	2 nd group	p value
White blood cells (/mmc)	16331 ± 7862	15730 ± 9537	NS
Neutrophils/Lymphocytes count ratio	12.17 ± 8.09	24.98 ± 35.12	0.05
Fibrinogen (mg/dl)	682 ± 316	599 ± 232	NS
C Reactive Protein (mg/l)	137 ± 81	176 ± 94	NS
Procalcitonin (ng/dl)	4.13 ± 6.59	26.77 ± 49.62	0.01

Conclusions

- SOFA score represents an useful instrument to appreciate the severity of septic patients, which was demonstrated by the statistically significant correlations with several predictors of severity.
- This score is too restrictive for the diagnosis of sepsis, especially in community-acquired sepsis, with lower severity. There are necessary clear criteria for the diagnosis of sepsis; unfortunately, the actual definition is not a good instrument for this purpose.