

Session: P098 Severe sepsis: sepsis definitions, biomarkers and bacteraemia

**Category: 2b. Severe sepsis, bacteraemia & endocarditis**

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## Is SOFA score a good instrument for the diagnosis and prognosis of community-acquired sepsis?

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**Background:** The definition of sepsis was recently changed 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. The 2016 definition takes into account only the criteria for the disease severity and uses SOFA score more than 2 points in order to identify patients with a risk of death around 10%. Despite this fact, patients without sepsis with SOFA score  $\geq 2$  can be identified and also patients with sepsis and SOFA score  $< 2$ . The situation of septic patients with SOFA score  $< 2$  is frequently found in community acquired sepsis. **Objective:** To establish the importance of the actual definition of sepsis in patients with community acquired severe infection in a tertiary hospital in Romania.

**Material/methods:** We conducted a prospective study in Matei Bals National Institute for Infectious Diseases which enrolled 55 patients 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 <2 and the second with SOFA  $\geq$ 2. Some clinical and biological data were comparatively analyzed between these two groups. The statistical analysis was made using open epi-info program.

**Results:** Between October 2015 – July 2016, we enrolled 55 consecutive patients, 31 with SOFA <2 and 24 with SOFA  $\geq$ 2. The mean age was  $50.48 \pm 17.88$  in group 1 and  $67.54 \pm 15.99$  in group 2 ( $p=0.005$ , significant older people in group 2). The next parameters were comparatively analyzed at the moment of admission between group 1 and 2:

- Medium number of SIRS criteria:  $2.77 \pm 0.61$  versus  $2.33 \pm 0.56$  ( $p=0.081$ , without significance)
- Medium white blood cell count:  $16331 \pm 7862$ /mmc versus  $15730 \pm 9537$ /mmc ( $p=0.79$ , without significance)
- Medium number of organ failures:  $0.61 \pm 0.61$  versus  $1.29 \pm 0.8$  ( $p=0.0007$ )
- Medium APACHE severity score:  $25.19 \pm 8.01$  versus  $39.5 \pm 14.12$  ( $p=0.00001$ )
- Medium APS severity score:  $18.16 \pm 7.08$  versus  $25.12 \pm 11.14$  ( $p=0.00001$ )
- Medium estimated mortality rate:  $3.48 \pm 2.06$  versus  $7.85 \pm 6.61$  ( $p=0.01$ )
- Medium Neutrophils/Lymphocytes count ratio:  $12.17 \pm 8.09$  versus  $24.98 \pm 35.12$  ( $p=0.05$ )
- Medium procalcitonin:  $4.13 \pm 6.59$  versus  $26.77 \pm 49.62$  ( $p=0.01$ )

Although the disease severity was lower in group 1, 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 group 1 (54.83%) had at least one organ failure and should be included in severe sepsis according to the old definition.

**Conclusions:** Even though SOFA score can be useful to appreciate the severity of septic patients, it 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.