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

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

25 April 2017, 12:30 - 13:30
P2064

### Serum biomarkers and prognostic scores in severe sepsis/septic shock

Juan Jesús Ríos-Toro*[1], Lourdes Pérez-Borrero[2], Sonia Fenández-Rodríguez[1], Jose María García-Alvarez[2], Felix Martin Gallardo[3], Manuel Gomez Sanchez-Orezzoli[3], Ricardo Rivera-Fernández[2]

[1]*Servicio Andaluz de Salud; Hospital Serranía de Málaga; Intensive Care Unit*

[2]*Hospital Serranía de Málaga; Intensive Care Unit*

[3]*Servicio Andaluz de Salud*

**Background:** Mortality is elevated in patients with severe sepsis and, even more, in those with septic shock. Early diagnosis and appropriate treatment improve the survival in them. The objective of this study was to explore the prognostic value of procalcitonin (PCT) and C-reactive protein (CRP) serum levels for patients with severe sepsis and/or septic shock in an intensive care unit (ICU) and compare it with scores prognostic.

**Material/methods:** 50 patients admitted at the intensive care unit (ICU) with the diagnosis of severe sepsis or septic shock were studied. SOFA and APACHE II scores as well as serum were measured at days 1, 2 and 5. The influence of these variables on 28-day mortality was analyzed.

**Results:** The sample is composed of 50 patients with severe sepsis and/or septic shock with an mean age 63.7±14.25 years and APACHE II on admission of 19.14±7.7 points. SOFA score of 7.62±3.8 points. Mortality was 42 %.

Patients who died on admission showed no statistically significant differences in APACHE-II 20.81 ± 8.53 vs 17.93 ± 6.93 points  (p=0.19) and SOFA score 8.14±4.26 vs 7.24±3.48 points (p=0.41). The inflammatory markers commonly analyzed had lower values of CRP 166±100 vs 223±117 mg/dL (p=0.081) and PCT 24±36.68  vs 10±21 ng/mL (p = 0.144) but without being statistically significant differences.

The changes between admission and the first day and its relation with mortality was analyzed, the inflammatory markers compared to surviving patients showed a decrease in CRP  −0.3 ± 78.44 vs

−2.93 ± 53.19 (p = 0.891 ) and PCT −1.38 ± 12.50 vs -3.14±20.02 (p = 0.745), and these decreases were not statistically significant.

Clinical severity indicators show a statistically significant decline in the APACHE II between the second day and first 2.16±5.54 vs −3.03±3.66 (p<0.001) and SOFA score 1.53±3.39 vs -1.21±1.74 (p<0.001).

The discrimination of changes regarding mortality was analyzed with the area for APACHE II changes of 0.80 (0.66-0.93) and SOFA evolution 0.76 (0.62-0.90). And the area for CRP changes and PCT was only 0.52 and 0.51. Multivariate analysis with logistic regression showed that mortality was statistically significant associated with the APACHE II change OR:1.29 (1.06-1.58) and without statistically significant relation with PCT, CRP and SOFA changes. We repeated the multivariable analisys excluding APACHE II changes and this new analisys showed that mortality was statiscally significant associated with SOFA changes wih OR: 1.8 (1.05-3.08) and without statistically significant relation with PCT and CRP.

**Conclusions:** In septic patients admitted to the ICU, the improving of APACHE and SOFA score are more sensitive markers of survival than the evolution of inflammatory parameters more commonly used as CRP and PCT.