

POSTER PRESENTATION

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# High sensitive troponin T as a biomarker and determinant factor of myocardial dysfunction in sepsis

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## Objectives

To determine whether the plasma concentration of high sensitive Troponin T (TnT<sub>hs</sub>) correlates with the initial echocardiographic ejection fraction (EF) in patients with sepsis. Analyze whether the TnT<sub>hs</sub> acts as a biomarker and independent determinant factor of myocardial dysfunction in these patients.

## Methods

We performed a prospective observational study with a cohort of 60 septic patients admitted to the ICU. Demographic data, severity scales, organ failure and doses of noradrenalin were registered. TnT<sub>hs</sub> analysis was performed at baseline and in the first 24 hours a transthoracic echocardiography was performed to assess the ejection fraction (Simpson), once a correct resuscitation had been performed. Patients were monitored until hospital discharge. The statistical analysis was aimed to show whether biomarker TnT<sub>hs</sub> acts as an early myocardial dysfunction biomarker in patients with sepsis and if it is an independent determinant factor of myocardial dysfunction. A bivariate analysis was performed using non-parametric tests and multiple logistic regression with the aim of obtaining a model adjusted to severity. Statistical significance if  $p < 0.05$ .

## Results

Of the 60 studied patients, 65% were men, with a mean age  $63.9 \pm 13.2$  years. APACHE II was  $16.8 \pm 7.5$  points, SAPS II  $38.3 \pm 15.7$  points and an initial SOFA of  $6.8 \pm 2.8$  points. Mortality to 28 days was 23.3%. The most frequent source of sepsis was abdominal (38.3%), followed by

respiratory (23.3%). 36.7% of patients had initial myocardial dysfunction (EF < 50%) and TnT<sub>hs</sub> values were positive (> 15 ng / L) in 76.6%. The correlation between the quantitative levels of initial TnT<sub>hs</sub> and doses of noradrenaline was positive and statistically significant, with  $p = 0.0001$ . There was also a significant correlation, in this case negative, between the quantitative levels of initial TnT<sub>hs</sub> and the initial EF ( $p = 0.04$ ). The multiple logistic regression model adjusted for APACHE II showed that the TnT<sub>hs</sub> [OR: 1.027 (95% CI = 1.000 to 1.007);  $p = 0.04$ ] was an independent determinant of myocardial dysfunction in this model.

## Conclusions

The TnT<sub>hs</sub> is a suitable biomarker for detecting myocardial dysfunction and correlates well with the initial EF and doses of noradrenalin. In a multiple logistic regression model adjusted by severity, TnT<sub>hs</sub> behaves as an independent determinant factor of myocardial dysfunction in patients with sepsis.

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