

# Organ dysfunction in patients admitted for out of Hospital Cardiac Arrest

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Argomento: Trauma e arresto cardiaco

## **Purpose:**

To evaluate the importance of clinical data and biochemical tests in patients with out of hospital cardiac arrest (OHCA).

## **Methods:**

Single centre prospective observational study of patients admitted for OHCA. We enrolled 30 patients from January 2018 to January 2019. Our primary endpoint was to assess the organ dysfunction in patient with OHCA considering serum lactate (SL), troponin I and neuron-specific enolase (NSE) analysed at the admission in our intensive care unit (t0), after 24 h (t1), 48 h (t2) and 72 h (t3). T test statistic and ANOVA for repeated measurement were performed.

## **Results:**

Preliminary results of 30 patients were enrolled, the average age was 62 y.o. ( $\pm 19,3$ ), male patient where 25 (78,1%). The presentation rhythm was ventricular fibrillation in 19 patients (59.3%), pulseless electrical activity in 7 (21.8%) and asystolia in 4 (12.5). An urgent coronary angiography was performed in 22 patients (68.7%) and a culprit lesion, treated with angioplasty and percutaneous coronary intervention, was found in 12 patients (10 culprit, 2 multivessel). The other causes of CA were: primary arrhythmia (26.6%), hypoxia (20%), chronic heart failure decompensation (3.3%) and other causes (intoxication and hemorrhagic shock) in 13.3% of patients. The mortality rate was 46,8%.

Patients survived outcomes had lower SL values 3,88 mmol/L ( $\pm 1,8$ ) that significantly decreased over time ( $p 0.002$ ) whereas not survivor had higher values without significant variations 8,85 mmol/l ( $\pm 5,39$ ) ( $p > 0.05$ ) - Figure 1. NSE values between survivor and non-survivor varies significantly at t0 ( $p 0.001$ ). TNI values were not significant amongst groups.

## **Conclusion:**

Mortality rate in patients experiencing OHCA remains extremely high. SL and NSE showed the best discriminator power between survivor and non-survivor.

Figure 1. box plot showing SL and NSE between survivor and non-survivor (top); SL variation in the 2 groups (bottom)

