

Category : **Cardiovascular: cardiac arrest\CPR**

A56 - The simple predictive indicators of outcome related to oxidative stress after out-of-hospital cardiac arrest.

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Introduction:

Out-of-hospital cardiac arrest (OHCA) occurs annually in 250,000-300,000 patients worldwide. The management of cardiac arrest is progressing including cardiopulmonary resuscitation (CPR) and the therapy of post cardiac arrest syndrome (PCAS). However, the social recovery rate remains low even now. Knowing accurate prognosis of PCAS and good neurological outcome is very important for utilizing limited medical resources. In recent, there are various cardiac arrest prognostic scores using multiple factors. The minimum indicators to know these are desirable to be able to obtain just after coming to hospital.

Methods:

Blood samples of OHCA patients were corrected immediately after visited to our hospital between September 2016 to May 2019. Biological anti-oxidant potential (BAP) and derivatives-of-reactive oxygen metabolites (d-ROM) as oxidative stress indicators were measured with Free carrio DuoTM (Wismarll, Italy) , 8-hydroxy-2'-deoxyguanosine (8-OHdG), carbonyl protein (CP), and High-mobility group box 1 (HMGB1) were measured with ELISA kit. These indicators values from 18 health volunteers (HV) were used as controls.

Results:

Overall, 33 OHCA patients were included. 25 patients achieved ROSC (ROSC group), 8 patients did not achieve ROSC (ROSC- group). ROSC- group had significantly higher BAP than HV and ROSC group ($p < 0.05$). Conversely ROSC- group had lower CP than HV and ROSC group. The receiver operating characteristics (ROC) curve of -BAP for predicting survival 28 days after OHCA was 0.724. ROC curve of CP of that was 0.720. BAP of CPC 3-5 group was higher than that of CPC1-2.

Conclusion:

The oxidative stress (BAP and CP) were strong correlate with 28-day survival and good neurological condition (BAP only) despite single indicator.