**Correlation between increased inflammation and early-onset pneumonia in patients with out-of-hospital cardiac arrest treated with extracorporeal cardiopulmonary resuscitation**

D Shiba 1; T Hifumi 2; N Otani 2; S Ishimatsu 2

1St. Luke’s International Hospital, Emergency Department, Tokyo, Japan, 2St. Luke’s International Hospital, Tokyo, Japan

**Introduction:**
After a successful resuscitation, a systemic inflammatory response occurs, and the C-reactive protein (CRP) level represents the degree of inflammation. This study examined the association between increased inflammation and early-onset pneumonia (EOP) in patients treated with extracorporeal cardiopulmonary resuscitation (ECPR) after out-of-hospital cardiac arrest (OHCA).

**Methods:**
This retrospective study included data of patients with OHCA treated with ECPR admitted to St. Luke’s International Hospital between April 2006 and April 2019. The exclusion criteria were as follows: age < 18 years, therapeutic hypothermia withdrawal due to death or circulatory failure, or sepsis as a suspected cause of cardiac arrest. Patients were diagnosed with EOP according to clinical signs and symptoms acquired after a hospitalization period of >48 h and within 7 days of admission. The CRP levels were measured daily from admission to day 3.

**Results:**
We studied 55 patients with a median age of 55 years (interquartile range: 42-65 years). Furthermore, 52 (95%) patients were males, and the median time interval from collapse to adequate flow was 51 (42-63) min. All patients received prophylactic antibiotics, and 18 (33%) of them had favorable neurological outcomes (CPC, 1-2). EOP occurred in 32 (58%) patients, with a significantly higher CRP level on day 3 than that in those without EOP (13.9 [11.2-19.0] mg/dL vs. 10.9 [7.3-13.6] mg/dL, p = 0.006). Multivariable analysis revealed that the CRP level on day 3 (odds ratio, 1.28; 95% confidence interval, 1.06-1.56; p = 0.002) was significantly associated with EOP development.

**Conclusion:**
Increased inflammation correlated with EOP development in patients with OHCA treated with ECPR.

**References:**
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