A178 - Favorable effects of reducing low-flow duration in ECPR patients

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Introduction:
The low-flow duration (LFD) in extracorporeal cardiopulmonary resuscitation (ECPR) is considered to be related to the neurological outcome. Nevertheless, there are a few reports on how the LFD and the prognosis had changed over time with continuous efforts. In this investigation, we aimed to clarify the temporal change in the LFD and outcomes of patients with ECPR at a single center between January 2003 and December 2017.

Methods:
This retrospective observational study was performed at Chiba University Hospital, a tertiary-care hospital in Japan. We reviewed medical records of all patients who received ECPR from January 2003 to December 2017. Over time changes in LFD were investigated, and then, the association of LFD with a 90-day outcome was analyzed.

Results:
Records from 175 patients were utilized in this study. Of them, 117 patients were in-hospital cardiac arrest (IHCA), and 58 patients were out-of-hospital cardiac arrest (OHCA). We found the significant shortening of LFD during the study period (IHCA, slope -5.39 [min/3-year], P<0.0001; OHCA, slope -5.49 [min/3-year], P=0.0084). In the multivariable regression, the shorter LFD was significantly associated with better 90-day survival and a favorable neurological outcome only in the IHCA group (LFD per minute, 90-day favorable neurological outcome: odds ratio=1.03, 95% confidence interval=1.00-1.06, P=0.046).

Conclusion:
The LFD was significantly shortened over time in both groups of IHCA and OHCA. The shorter LFD was associated with a better 90-day outcome.