

PAEDIATRIC OUT-OF-HOSPITAL-CARDIAC ARRESTS AND EMERGENCY DEPARTMENT-CARDIAC ARRESTS: FACTORS ASSOCIATED WITH SURVIVAL TO DISCHARGE AND IMPROVED NEUROLOGICAL OUTCOME.

**PURPOSE OF THE STUDY.** Knowing factors associated with survival to discharge and neurological outcome in Out-of-Hospital Cardiac Arrest (OHCA) and Emergency-Department Cardiac Arrest (EDCA).

**MATERIALS AND METHODS.** Prospective study (65 hospitals, 6 countries) using Utstein style with paediatric OHCA and EDCA. Factors associated with survival and neurological outcome to discharge (paediatric overall performance category –POPC–) were analyzed from 1<sup>st</sup> Jun 2014 to 15th Dec 2015.

**RESULTS.** We have analyzed 75 paediatric cardiac arrests, 12 of them were EDCA, 57.3% male. Median age of the sample: 3.6 years (interquartile range 1.1-9.1).

- We found association between survival to discharge and:
  - first rhythm different to asystole,  $p = 0.002$ . 16.6% (7/42) of patients whose first rhythm was asystole survived to discharge vs 51.9% with different known rhythm (14/27), nevertheless some patients whose first rhythm was asystole survived to discharge with 1 POPC=2, 4 POPC=3, 1 POPC=4, 1 POPC=5,
  - bystander (who started CPR before medical team arrived,  $p=0.03$ ).
  - lower PELOD score in first 24 hours ( $p=0.013$ ).
- We found association between survival to discharge with POPC 1 or 2 and:
  - first rhythm different to asystole,  $p << 0.001$ . 2.7% (1/36) of patients whose first rhythm was asystole survived to discharge with POPC=1 or 2 vs 44% with different known rhythm (11/25),
  - bystander ( $p=0.04$ ).
  - lower PELOD score in first 24 hours ( $p < 0.001$ )

**CONCLUSIONS.** In our paediatric OHCA/EDCA study, a) patients whose first cardiac arrest-rhythm was different to asystole, b) patients with bystander and c) patients with lower PELOD at first 24 hours survived to discharge and had better neurological outcome. We need a larger tracing and to know more about other variables that may be associated with good outcome.