Arrest location, initial rhythm and outcome in intensive care unit-treated cardiac arrest patients

Purpose of the study

To evaluate the effect of arrest location and initial rhythm on outcome of intensive care unit (ICU) treated cardiac arrest (CA) patients.

Materials and methods

A registry-based study to determine associations between CA location and initial rhythm with one-year mortality and neurological outcome in adult CA patients, who received post-arrest treatment in the ICUs of a tertiary hospital between 2005 and 2013.

Results

Total of 1,139 CA patients

Variable	Adjusted Odds Ratio	95% confidence interval
Age ^a	1.03	1.02-1.04
OHCA	reference	
IHCA	1.45	0.97-2.17
ICUCA	2.25	1.23-4.12
ROSC ^b	1.07	1.05-1.09
VF/VT	reference	
PEA	2.07	1.4-3.05
ASY	3.26	1.94-5.46

^aper year; ^bper minute

Initial rhythm: VF/VT 58%, PEA 25%, asystole 11%, other/unknown 6%.

Unadjusted one-year mortality was 62% for in-ICU cardiac arrest patients (ICUCA), 57% for other in-hospital cardiac arrest patients (IHCA) and 42% for out-of-hospital cardiac arrest patients (OHCA).

Among one-year survivors, good neurological outcome was seen in 94% of patients with no significant differences between CA locations or initial rhythms ($p > 0.05$ for both).

Conclusion

In our study population, OHCA as location and VF/VT as initial rhythm were associated with better survival. Most one-year survivors had a good neurological outcome.

Authors

I. Efendijev^{1*}, D. Folger¹, R. Raj¹, M. Reinikainen², MB. Skrifvars¹

¹University of Helsinki and Helsinki University Hospital, Helsinki, Finland

²North Karelia Central Hospital, Joensuu, Finland

*ilmar.efendijev@helsinki.fi