

Introduction

- There are no clear guidelines on how long CPR (cardiopulmonary resuscitation) should be given to patients who are transported in cardiopulmonary arrest.
- In Europe and the United States, universal TOR (termination of resuscitation criteria) standards have been established, but in Japan, it is still largely up to the discretion of the medical staff.
- This study aimed to understand what kind of on-site decisions are made regarding resuscitation time in cases of cardiopulmonary arrest.

Methods

- A questionnaire survey was administered to 15 physicians engaged in emergency care at two major medical facilities in Hiroshima, Japan.
- The questionnaire was a self-administered, unmarked, web-based survey.
- Respondents answered the following questions: background of respondents, whether the facility has a policy on resuscitation, resuscitation time according to the patient background.

Results

Characteristics of respondents

		respondents (n=15)	%
Gender	male	13	86.7
	female	2	13.3
Years of clinical experience	5<	4	26.7
	5≤ <10	5	33.3
	10≤ <15	5	33.3
	15≤ <20	1	6.7
	20≤	0	0
Type of facility	university hospital	12	80.0
	non-university hospitals	3	20.0
Whether the facility has a policy on resuscitation	yes	0	0
	no	15	100

Percentage of responses for time spent on resuscitation by patient age and patient background(%)

(CASE 1) ADL(+) /relative(+)					(CASE 3) ADL(+)/relative(-)				
Time Age	15min >	30min >	60min >	≥60min	Time Age	15min >	30min >	60min >	≥60min
18-34	0	13.3	73.3	13.3	18-34	0	33.3	53.3	13.3
35-64	0	26.7	66.7	6.7	35-64	6.7	26.7	60	6.7
65-74	6.67	40.0	53.3	0	65-74	13.3	46.7	40	0
75≤	13.3	33.3	53.3	0	75≤	20	46.7	33.3	0
(CASE 2) ADL(-)/relative(+)					(CASE 4) ADL(-)/relative(-)				
Time Age	15min >	30min >	60min >	≥60min	Time Age	15min >	30min >	60min >	≥60min
18-34	0	33.3	53.3	13.3	18-34	13.3	33.3	40	13.3
35-64	0	46.7	46.7	6.7	35-64	26.7	33.3	33.3	6.7
65-74	26.7	40	33.3	0	65-74	40	26.7	33.3	0
75≤	33.3	40	26.7	0	75≤	40	33.3	26.7	0

※ ADL: Activities of Daily Living (+) independent (-) not independent

The patients were divided into four groups (CASE1-4) according to whether or not they were independent in ADL and whether or not they had relatives.

The time spent for resuscitation was classified into four levels: less than 15 minutes, 15 to 30 minutes, 15 to 60 minutes, and more than 60 minutes.

The resuscitation time tended to decrease as the patient's ADL became less independent, the patient had no relatives, and the patient became older.

Discussion

- There was no written facility policy on resuscitation, and the amount of time spent on resuscitation was determined at the discretion of individual medical staff.
- The results showed that when the initial ECG waveform was cardiac arrest, the time to resuscitation varied depending on ADL, presence of relatives, and patient age.
- In a survey¹⁾ conducted by the Japan Resuscitation Society in 1998, medical factors such as the duration of cardiopulmonary arrest and ECG waveforms, as well as the patient's condition, especially in terminally ill patients with reduced ADL, were considered important criteria for deciding to stop CPR.
The resuscitation time tended to decrease with increasing age, and the results were similar in this study.
- This study also asked about the presence of relatives and resuscitation time, and the resuscitation time tended to be shorter when the patient had no relatives.
It is possible that "family thoughts" as a factor affecting resuscitation time and "presence or absence of witnesses" being related to the prognosis of out-of-hospital cardiac arrest patients²⁾ may have contributed to these results.

1) Akiyoshi Namiki, et al. A questionnaire survey on the discontinuance of cardiopulmonary resuscitation. *Japanese Journal of Reanimatology*. 1998; 17(2): 87-107
2) Keita Shibahashi, et al. External validation of the prediction criteria for the outcome after out-of-hospital cardiac arrest: a retrospective population-based study in Japan. *JJAAM*. 2019; 30: 907-12

Conclusion

While it is important to stop futile resuscitation and to protect scarce medical resources, it relies heavily on the discretion of individual medical staff.

It is desirable to establish guidelines and improve social security in the future.

