

Mortality Evaluation According to Length of Stay in the Emergency Department for Out-of-Hospital Cardiac Arrest: A Retrospective Cohort Study

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INTRODUCTION

Out-of-hospital cardiac arrest (OHCA) is a critical medical condition associated with high mortality. Timely and efficient management in the emergency department (ED) is crucial for improving patient outcomes¹.

RESULTS

In total, 870 of 1196 OHCAs died in the ED. A total of 248 OHCA patients met the inclusion criteria. 63.7% of patients were male and the median age was 68 [59–76] years. The duration of admission to the intensive care unit for OHCA patients was 176 [94-253] minutes. 32 of the patients hospitalized in the ICU were discharged from the hospital. Age, lactate, troponin, creatinine, potassium and length of stay in the ED were lower in those discharged (**p<0.001**, **p=0.035**, **p=0.002**, **p=0.017**, **p<0.001** and **p=0.025**, respectively). The area under the curve of the length of stay in the ED according to the ROC curve was determined as 0.623.

	ICU Died (n=216)	ICU Discharged (n=32)	P value	
Male gender, n (%)	135 (76.3)	23 (71.9)	p>0.05	
Age, years [IQR]	69 [60.8-77]	60 [55.3-67.3]	p<0.001	
Lactate, mmol/L [IQR]	10.4 [8.17-13.0]	8.40 [6.25-11.7]	p=0.035	
hs Troponin T, ng/L [IQR]	64.0 [28.5-163.0]	23.5 [15.8-75.0]	p=0.002	
Creatinine, mg/dL [IQR]	1.44 [1.17-1.86]	1.25 [1.09-1.42]	p=0.017	
Potassium, mmol/L [IQR]	5.25 [4.50-6.13]	4.42 [3.74-4.91]	p<0.001	
Length of Stay in ED, min [IQR]	181 [101-258]	132 [67.7-221]	p=0.025	

Figure 1. ROC curve of the length of stay in



This study aims to evaluate the association between the length of stay in the ED and mortality for OHCA.

METHOD

retrospective analysis Α was conducted using data from a university hospital's electronic health records. Adult patients with OHCA and were admitted to the intensive care (ICU) unit between 2013 and 2022 were included. The primary outcome in-hospital mortality. was Mortality assessment was performed according the to length of stay in the ED and first laboratory parameters.

Table 1. Demographic and laboratory parameters according to mortality in ICU.

 ICU: Intensive Care Unit, ED: Emergency Department, IQR: Interquartile Range



CONCLUSIONS

The mortality of OHCA patients is affected by many different factors². However, the length of stay in the ED should be seen as a factor that can be changed according to hospital conditions. Since it may be difficult to provide optimal intensive care facilities to patients in the increasing patient density and crowded EDs, efforts should be made for ICU admission in the early period. Future studies exploring specific interventions to reduce ED length of stay and improve patient outcomes in this population are warranted.

REFERENCES

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