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Published In/Presented At

Maryashina, A.; Broderick, A.; Williams, J., (2015, July 31) *Drug Abuse Paradox Seen in Out-of-Hospital Cardiac Arrest Data*. Poster presented at LVHN Research Scholar Program Poster Session, Lehigh Valley Health Network, Allentown, PA.

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Drug Abuse Paradox Seen in Out-of-Hospital Cardiac Arrest Data

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Background

Cardiac arrest is the largest cause of natural death in the U.S¹. Illicit drug use is often considered in defining cardiac arrest risk². However, limited research has been undertaken to examine the baseline characteristics of drug abusers with out-of-hospital cardiac arrest (OHCA). This study aims to address this gap.

Objectives

- ❖ Compare survival to discharge rates for drug abusers and non-drug abusers
- ❖ Evaluate baseline characteristics such as age and past medical history
- ❖ Examine cardiopulmonary resuscitation variables such as CPR duration

Methods

1

- Retrospective review of database for OHCA patients between January 2012 and May 2015
- Exclusion criteria: age <18 or >70 years and traumatic origin of the arrest

2

- Data evaluation for a total of 200 non-drug abusers and 50 drug abusers
- Examination of survival rates for drug abusers and non-drug abusers

3

- Analysis of major risk factors related to death
- Analysis of cardiopulmonary resuscitation variables
- Descriptive statistics analysis

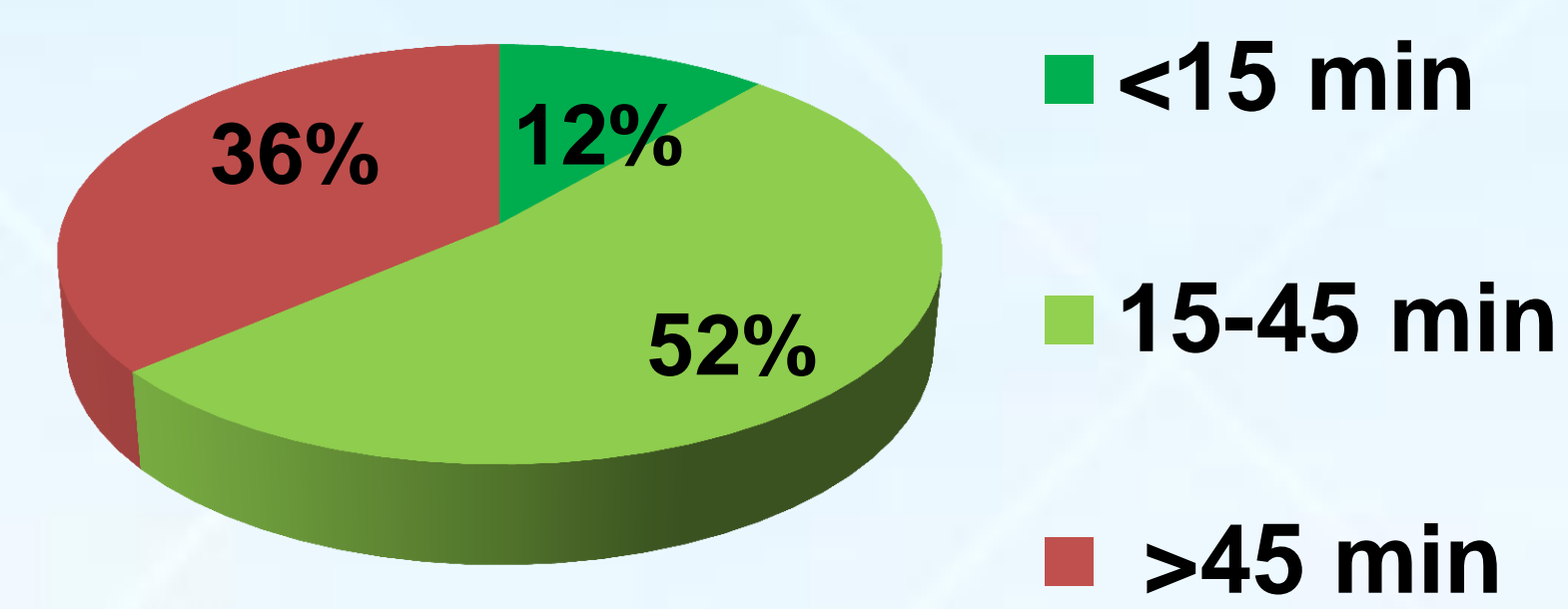
Results

Baseline Characteristics

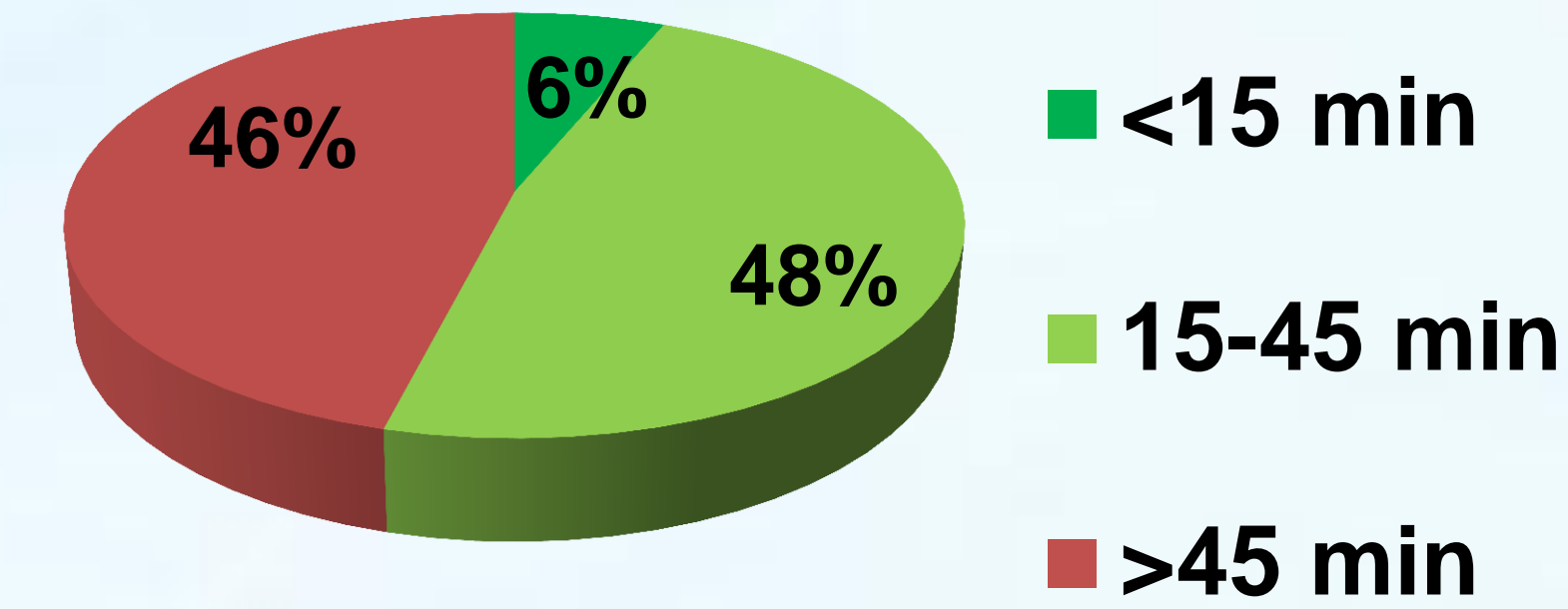
	Drug abusers (n=50)	Non-drug abusers (n=200)
Average age	42 years	58 years
Prior medical history	29%	49%
Hypertension	40%	75%
Hyperlipidemia	21%	38%
Diabetes mellitus	21%	41%
Coronary artery disease	15%	39%
Myocardial infarction	10%	21%
COPD	8%	15%
Stroke	4%	12%
Prior cardiac surgeries	10%	30%
Obesity	47%	61%
Survival to discharge rate	12%	11%

CPR Duration

Drug abusers



Non-drug abusers



Discussion

- ❖ Although more drug abusers presented with unwitnessed cardiac arrest and PEA/asystole initial rhythms, their survival to discharge rate was comparable to that of non-drug abusers
- ❖ The difference in outcomes between the two sets of patients was mainly due to a shorter CPR duration, a younger age and lower rates of prior cardiac history

Conclusion

The study has shown that, despite some possible selection bias, drug abusers have similar outcomes for OHCA as non-drug abusers. Introducing more aggressive treatments such as extracorporeal membrane oxygenation (ECMO) in the Lehigh Valley Health Network for patients with drug abuse history is a promising way to increase the overall survival to discharge rates for OHCA.

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2. Lange RA, Hillis LD. Cardiovascular complications of cocaine use. *N Engl J Med*. 2001; 345:351-358.

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