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Moderatori: **Claudia Cicchini – Emmanuele Tafuri**

Jacopo Davide Giamello

Emergency department cardiac arrest (EDCA): uno studio retrospettivo

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Emergency department cardiac arrest (EDCA): uno studio retrospettivo

Jacopo Davide Giamello, Chiara Bertone, Nicoletta Artana, Emanuele Bernardi, Elisa Basile, Marco Bironzo, Alice Bruno, Serena Capriotti, Andrea Falcetta, Tiziana Ponza, Fabio Morra, Andrea Sciolla, Giuseppe Lauria

OHCA

EDCA

IHCA

RESUSCITATION 170 (2022) 100–106

Available online at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Predictors and outcomes of cardiac arrest in the emergency department and in-patient settings in the United States (2016–2018)

Cardiac arrests within the emergency department: an Utstein style report, causation and survival factors

Sing C. Tan[a] and Benjamin Sieu-Hon Leong[b]

RESUSCITATION xxx (2022) xxx

Available online at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Clinical paper

Adult cardiac arrest in the emergency department – A Swedish cohort study

RESUSCITATION 175 (2022) 44–45

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Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

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Editorial

Emergency department cardiac arrests: Who, when, and why? Insights from Sweden

Check for updates

higher rates of return of spontaneous circulation, survival to hospital discharge, and favorable neurological outcomes at discharge

peri-intubation arrest is a paramount consideration for the ED clinician; pre-intubation hypotension is the greatest predictor of peri-intubation arrest

efficiency and timeliness of triage systems as well as the role of early warning scoring systems

a change in thinking is needed when approaching asystole and PEA in EDCA. Rapid diagnosis of reversible causes of asystole such as hyperkalemia and hypoxia as well as early differentiation between true-PEA and pseudo-PEA is essential to help guide treatments [...] this includes the early use of bedside ultrasound during cardiac arrest to evaluate for conditions such as cardiac tamponade, tension pneumothorax, and pulmonary embolus

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Editorial

Emergency department cardiac arrests: Who, when, and why? Insights from Sweden

EDCA are representative of a unique patient population that deserves a different approach compared to either OHCA or IHCA.

Retrospective study
ED of Santa Croce e Carle Hospital – Cuneo, Italy
2010-2020

Inclusion criteria
- cardiac arrest within the ED
- age ≥ 18

Exclusion criteria
- Traumatic etiology
- DNAR
- OHCA

Primary outcome: survival at ED discharge
Secondary outcome: survival at hospital discharge with CPC 1-2

Cerebral Performance Category (CPC)

1 - Good cerebral performance: conscious, alert, able to work, might have mild neurologic or psychological deficit;

2 - Moderate cerebral disability: conscious, sufficient cerebral function for independent activities of daily life, able to work in sheltered environment;

3 - Severe cerebral disability: conscious, dependent on others for daily support because of impaired brain function, ranges from ambulatory state to severe dementia or paralysis;

4 - Coma or vegetative state: any degree of coma without the presence of all brain death criteria. Unawareness, even if appears awake (vegetative state) without interaction with environment; may have spontaneous eye opening and sleep/awake cycles, cerebral unresponsiveness;

5 - Brain death: apnea, arreflexia, EEG silence, etc.

	Sample total (n = 319)
Age	79 [64;85]
Male	194 (60.8%)
Charlson comorbidity index	5 [3;6]
Access via EMS/HEMS	272 (85.3%)
Arterial hypertension	173 (54.2%)
Diabetes	65 (20.4%)
Chronic heart disease	126 (39.5%)
Chronic lung disease	47 (14.7%)
Chronic kidney disease	45 (14.1%)
Chronic liver disease	20 (6.3%)
Active cancer	46 (14.4%)
Dementia	30 (9.4%)
Substance abuse history	9 (2.8%)

ACC presentation rhythm	
• PEA	182 (57.1%)
• Asystole	70 (21.9%)
• VF	52 (16.3%)
• pVT	15 (4.7%)

ACC cause not identified	143 (44.8%)
ACC cause (n=176)	
• coronary thrombosis	54 (30.7%)
• hypoxia	40 (22.7%)
• hypovolemia	37 (21%)
• pulmonary thrombosis	14 (7.9%)
• hypo-hyperkaliemia/metabolic	12 (6.8%)
• toxins	7 (3.9%)
• cardiac tamponade	6 (3.4%)
• hypothermia	3 (1.8%)
• other	3 (1.8%)

Outcomes	
ED mortality	245 (76.8%)
In-hospital mortality	266 (83.4%)
CPC at hospital discharge (n = 53)	1 [1;2]
Alive at hospital discharge with CPC 1-2 (n = 53)	33 (62,3%)

	Survival in ED (n = 74)	Deceased in ED (n = 245)	P value
Age	63 [53;80]	79 [67;87]	< 0.001
Male	54 (73%)	140 (57%)	0.02
Charlson comorbidity index	4 [2;6]	5 [3;6]	0.003
Shockable presentation rhythm	34 (45.9%)	33 (13.5%)	< 0.001

	Survivor with CPC 1-2 (n=33)	Other patients (n=286)	P value
Age	61 [46;71]	78 [64;85]	< 0.001
Male	25 (75.7%)	169 (59.1%)	0.09
Charlson comorbidity index	3 [2;5]	5 [3;6]	< 0.001
Shockable presentation rhythm	26 (78.8%)	41 (14.3%)	< 0.001




	USA	Sweden	Singapore	Cuneo
events	325062	2568	106	319
incidence	n.a.	1/10K	3.5/10K	4.2/10K
male	63%	61%	68.9%	79 [64;85]
age	61.55 ± 20.5	74 [64;82]	64 ± 16.5	194 (60.8%)
cause identified	33%	30%	n.a.	55%
main cause	toxins	cardiac	cardiac	cardiac
shockable rhythm	n.a.	26%	22.6%	21%
survival at hospital discharge	10%	35%	29%	16.6%
CPC 1-2	n.a.	74%	80%	62,3%

Emergency department cardiac arrest (EDCA)

Alta prevalenza di ritmi non defibrillabili

Trombosi coronarica come prima causa

Sopravvivenza piuttosto bassa, ma con discreta performance cerebrale

Emergency department cardiac arrest (EDCA):

Necessaria una definizione universalmente condivisa di EDCA

Al fine di impostare studi clinici prospettici e multicentrici

Per comprendere meglio le caratteristiche dell'EDCA