Sonographic support in non shockable cardiac arrest : diagnosis of pseudo-PEA and probability of occurrence of ROSC in the out of hospital setting

L. Maulicino¹, G. Abregal², P. Marin³, E. Pivetta⁴Emergency Department Anaesthesiology and ICU - Imperia (Italy), ²Emergency Department Azienda Sanitaria Imperiese - Sanremo (Italy), ³Emergency Department , Anaesthesiology and ICU Azienda Sanitaria Savonese - Albenga (Italy), ⁴University of Turin,AOC Citta'della Salute e della Scienza di Torino - Torino (Italy)

1 Background and Goal of Study

Over the last decade,the prevalence of PEA as presentation rhythm of cardiac arrest(CA) increased more than those of VT/VF and become a challenge for providers of the Emergency Medical Service
An additional visual support during ACLS protocol might show that the PEA would be related to mechanical activity detected with pocket size ultrasound (i.e.focused cardiac US evaluation FOCUS)
This condition pseudo-PEA has different features than true Pea (no pulse and any cardiac motion at FOCUS)
Aim of study was to describe if pseudo-Pea was linked with higher probability of ROSC compared to true Pea in Out of Hospital CA (OHCA)

Caption for this graphic goes here.

2 Materials and Methods

This was an observational descriptive study
Between September 2015 and December 2017 we enrolled patients from EMS of Western Liguria who, underwent cardiopulmonary resuscitation US-assisted,for OHCA
FOCUS examination was performed during the pulse check of resuscitation effort with a pocket size ultrasound (GE Vscan©)for not more of 10"
Presence of any cardiac motion was recorded and linked with electrocardiografic activity and ROSC
Exclusion criteria were expected death,OHCA not testified,and dispatch-guided CPR not carried out

Caption for this graphic goes here.
More detail goes in this sentence.

3 Results and Discussion

All Exams performed showed a good technical result (n=30)
Male/Female ratio was 1.5
Median Age was 80 years (interquarile range 24)
The ALS team observed this rhythms
asystole = 64%
PEA = 30%
VT-NP/VF both = 3%

Mechanical activity was detected in 55.% of PEA (i.e.pseudoPEA)

ROSC was achieved in 100% of VT/VF,10.5%of asystole,80% of pseudo-PEA and 0% of true-PEA
Result suggested the presence of electrical activity and left ventricular contraction was linked to better response to higher frequency of ROSC than absence or only valve motion

4 Conclusion

FOCUS allowed to detect mechanical cardiac activity in PEA patients in the pre-hospital setting
Rhythms more frequently detected by ALS team are the non-shockable
Frequency of ROSC in pseudo-Pea was higher than other non shockable rhythms (e.g.true PEA and asystole)
This results underlined the utility to enhance use of US support in the prehospital ALS scenario

5

Funding Source:
First Person
Second Contributor