Category :**Cardiovascular: cardiac arrest\CPR**

A233 - ***Centralising cardiac arrest care: a single centre retrospective observational study***

R Pugh [1] ; M Papadopoullos [2] ; J Scanlon [1] ; R Craddock [1]

[1]Glan Clwyd Hospital, Department of Anaesthetics, Bodelwyddan, United Kingdom, [2]Cardiff University, School of Medicine, Cardiff, United Kingdom

Introduction:

Glan Clwyd Hospital (GCH) has offered a 24/7 Percutaneous Coronary Intervention (PCI) service in North Wales (population approx. 690,000) since 2017 and has been designated one of three Welsh Cardiac Arrest Centres. The aim of the study was to evaluate the impact of this development upon resource requirements and outcomes.

Methods:

Retrospective review of the ICU Ward Watcher database to identify patients undergoing CPR in the 24 hours prior to admission April 2013- April 2021. Patients likely to have sustained Out of Hospital Cardiac Arrest (OOHCA) of primary cardiac aetiology (OOHCA-C) were identified from primary/secondary diagnoses and free text entry. Data were subsequently analysed using Excel and SPSS. The project was registered as a service evaluation.

Results:

There were 367 ICU admissions following cardiac arrest; 245 were OOHCA, of which 189 were considered OOHCA-C. Annual OOHCA admissions increased through the study period from 12 (2013-14) to 50 (2019-20) before decreasing to 29 during COVID-19 pandemic (2020-21). OOHCA bed days increased from 38 in 2013-14 to 215 in 2019-20, falling to 169 in 2020-21. Proportions of OOHCA-C patients undergoing pre-ICU PCI increased with time (33% in 2013-14 to 47% in 2020-21). Hospital mortality following OOHCA was 61.2% and OOHCA-C was 59.7%; temporal trends did not reach statistical significance. Main factors from first 24 hours of ICU admission associated with hospital mortality are presented below. On logistic regression, only lactate, central temperature and lack of pre-ICU PCI significantly predicted hospital mortality ($p<0.001$).

Conclusion:

Centralising cardiac arrest care has led to an appreciable rise in ICU bed occupancy. Although overall hospital mortality for OOHCA-C remains high and appreciating potential selection bias, a significant association between PCI and survival to hospital discharge appears to support clinical pathways enabling PCI access following OOHA-C (1).

References:

Nolan et al. ERC / ESICM guidelines 2021: post-resuscitation care

Table:

Factor (categorical or median)	Lived (n=76)	Died (n=113)	All (n=189)	p value
Age (years)	61	67	64	0.007
APACHE II	14	19	17	<0.001
Pre-ICU PCI	47 (62%)	35 (31%)	82 (43%)	<0.001
Lowest P:F ratio (kPa)	26.9	22.0	23.5	0.003
Lowest systolic blood pressure (mmHg)	89	84	85	0.029
Highest lactate (mmol/L)	2.5	3.8	3.2	<0.001
Highest temperature (C)	37.0	36.5	36.9	<0.001

Hospital mortality following OOHCA-C