Abstract 100 Table 1 Patient characteristics

Patient characteristics	PHT	IHT	PPCI
Age (mean, SD)	64.0 (11.7)	66.1 (13.6)	67.6 (12.8)
Male (n, %)	97 (78.2)	242 (68.4)	490 (73.8)
Diabetes (n, %)	7 (5.6)	26 (7.3)	77 (11.6)
Current smokers (n, %)	46 (37.1)	110 (31.1)	255 (38.4)
Aspirin on discharge (n, %)	116 (93.5)	302 (85.3)	612 (92.2)
Thienopyridine on discharge (n, %)	82 (66.1)	88 (24.9)	617 (92.9)
Beta-blocker on discharge (n, %)	108 (87.1)	290 (81.9)	589 (88.7)
ACEi on discharge (n, %)	107 (86.3)	289 (81.6)	590 (88.9)
Statin on discharge (n, %)	114 (91.9)	297 (83.9)	615 (92.6)

Results Median symptom-to-reperfusion time was shortest for PHT (104 min, IQR 73–171), compared with IHT (156 min, IQR 113–253) and PPCI (162 min, IQR 121–275). Median first contact-to-reperfusion time, that is, the time between first physical contact with emergency medical services and reperfusion, was also shortest with PHT (32 min, IQR 24–40) when compared with IHT (59 min, IQR 40–82) and PPCI (82 min, IQR 68–97).

Mortality was significantly lower with PPCI compared with IHT at 30 days (4.5% vs 10.5%, $P = 0.0005$) and 1 year (7.5% vs 14.4%; $P = 0.0006$). However, PHT was associated with lower mortality when compared with PPCI at 30 days (0% vs 4.5%, $P = 0.009$) and 1 year (1.6% vs 7.5%; $P = 0.01$), and with IHT at 30 days (0.0% vs 10.5%; $P < 0.0001$) and 1 year (1.6% vs 14.4%, $P < 0.0001$).

The sub-group of patients treated with PPCI with a first contact-to-reperfusion time of ≤ 90 min was shown to have no significant difference in mortality compared with PHT at 30 days (2.3% vs 0.0%, $P = 0.13$) and 1 year (4.5% vs 1.6%, $P = 0.19$). However, patients treated with PPCI with a first contact-to-reperfusion time of 91–120 min were shown to have significantly higher mortality when compared with PHT at 30 days (5.8% vs 0.0%, $P = 0.004$) and 1 year (9.5% vs 1.6%, $P = 0.004$). PPCI with first contact-to-reperfusion times of >120 min had even higher mortality rates when compared with PHT at 30 days (18.4% vs 0.0%, $P < 0.0001$) and 1 year (26.5% vs 1.6%, $P < 0.0001$) (Table 2).

Abstract 100 Table 2 Patient 30-day and 1-year mortality following treatment of STEMI with either PHT, IHT or PPCI

Reperfusion modality	Patients (n)	30 day mortality (n, %)	P value*	1 year mortality (n, %)	P value*
PHT	124	0 (0.0)	-	2 (1.6)	-
IHT	354	37 (10.5)	<0.0001	51 (14.4)	<0.0001
PPCI (total)	664	30 (4.5)	0.009	50 (7.5)	0.01
(i) first contact-to-balloon ≤ 90 min	426	10 (2.3)	0.13	19 (4.5)	0.19
(ii) first contact-to-balloon 91–120 min	189	11 (5.8)	0.004	18 (9.5)	0.004
(iii) first contact-to-balloon > 120 min	49	9 (18.4)	<0.0001	13 (26.5)	<0.0001

*P values are for statistical comparisons with PHT mortality

Conclusion This analysis highlights the importance of the time-liness of reperfusion in patient outcomes in PPCI.

Furthermore, it suggests that PHT may still represent a viable reperfusion option in the management of STEMI, particularly if significant delays in transfer to a PPCI centre are expected.

BCS Affiliates – Allied professionals (BACPR/BANCC)

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ALL PATIENTS IMMEDIATELY POST PRIMARY PERCUTANEOUS CORONARY INTERVENTION (PPCI) ARE CARED FOR IN AN ACUTE CARDIAC CARE ENVIRONMENT. IS IT ABOUT TIME WE REVIEWED OUR PRACTICE?

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Introduction Primary percutaneous coronary intervention (PPCI) targets early intervention, achieving better outcomes for patients suffering from ST elevation myocardial infarction (STEMI). European Society of Cardiology (ESC) guidelines (2012) advocate acute cardiac units as the environment of choice in which patients should be cared for by highly trained and skilled nurses who provide close monitoring and rapid response to acute changes. However the advancements in accessing early intervention by PPCI with fewer complications and improved outcomes, anecdotally some patients following uncomplicated PPCI are the most stable patients on the acute cardiac ward. We re-evaluated the nursing care pathway of the PPCI group of patients.

Method

1. A review of the literature on the nursing care post PPCI to establish an evidence base.
2. A national benchmarking exercise on the context of the care setting, the timing of nursing interventions and length of stay on the acute cardiac units and within the hospital to identify whether unpublished care standards exist.

Results The literature review identified few studies which established the standards of nursing care in this group (Oriolo and Tagney 2011, Viana-Tejedor *et al* 2009), much of the written nursing care is based upon traditional practices or consensus of medical opinion founded on the anticipation of complications post PPCI.

For the bench marking exercise, 17/30 centres provided information by telephone.

- All patients post PPCI were admitted to an acute cardiac unit with ECG monitoring.
- There was large variation in the timing of nursing interventions; length of ECG monitoring (12 – 48 hrs), fluid balance monitoring (0 – 24 hrs) or mobilisation of the patients (6 – 24hrs).
- More than half kept their patients routinely on the acute cardiac unit for at least 24 h before stepping down to the ward.
- Two centres would step down at 12 h routinely, however five centres stated that step down was reviewed earlier dependant on patients need.
- Three centres discharge their patients home at 48 h with the largest number between 48–72 h, some considering “sleeps” rather than hours.
- One unit had no set criteria for movement, moving as part of acuity; however this was part of a larger unit so easier to manage patients.

- Some units varied the discharge home depending on area of STEMI or LV function or Doctor Preference.

Conclusion There is little evidence to support the current timing of care of the patient post PPCI and the subsequent bench marking exercise demonstrated that set criteria was being applied to this patient group based on tradition or experience. There is little evidence that practices have changes with the advances in the outcomes post PPCI. With this variation nationally there is a need for further exploration in this area to provide a more concise, evidence based standards which would improve that patient pathway and make better use of the resources available.

Acute Coronary Syndromes

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EARLY ANGIOGRAPHY AND CORONARY INTERVENTION IN COMATOSE SURVIVORS OF OUT OF HOSPITAL CARDIAC: CAN THE 12-LEAD ECG BE GATEKEEPER?

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Background Emergency coronary angiography in comatose survivors of out of hospital cardiac arrest (OHCA), in the absence of STEMI criteria on a post-resuscitation ECG, is controversial. High mortality and the implications on resource use, without robust criteria for the selection of appropriate candidates, has prevented clear guidance from the national societies. Our institution has adopted early involvement of a specialist team, consisting of an interventional cardiologist, emergency care physician and intensive-care anaesthetist, to initiate early assessment of patients. All survivors of OHCA, without an obvious non-cardiac aetiology, are transferred to the cardiac catheterisation laboratory for emergent angiography and intervention, if indicated, irrespective of presenting ECG, before admission to intensive care. We report the outcomes of this pathway with particular emphasis on the predictive value of the post-resuscitation ECG.

Methods We retrospectively reviewed the clinic data, ECG characteristics and angiographic images of all survivors of OHCA admitted to our institution between 1 October 2012 and 31 July 2015.

Results We obtained data for 192 patients (80% male, average age 62 years). 24% patients were transferred from neighbouring hospitals. The median time interval from admission to the emergency department and transfer to the catheter laboratory was 76 min for local patients compared to 176 min for transferred patients. The prevalence of significant coronary artery disease (>70% stenosis in at least one coronary artery) was 77% in our patient cohort. 69 (36%) patients had an acute coronary occlusion whereas 55 (29%) cases were chronic total occlusions. Immediate PCI was undertaken in 109 (57%) cases and of these 46 (42%) did not have ST elevation on the post-resuscitation ECG. Our overall rate of survival to discharge was 58%, with higher rates of survival observed in those undergoing PCI (63% v 52% in conservatively managed patients (non-significant $p = 0.1$)).

Conclusion Clinical criteria and electrocardiographic data are poor predictors of significant coronary artery disease and acute coronary occlusion. In our experience early involvement of a specialist team to facilitate prompt assessment and

immediate coronary angiography is associated with a favourable outcome in this unselected population of comatose survivors of out of hospital cardiac arrest.

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IS IT SAFE TO USE A HIGH SENSITIVITY TROPONIN T ASSAY FOR EARLY "RULE OUT" IN PATIENTS WITH SUSPECTED ACUTE CORONARY SYNDROME?

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The European Cardiac Society have recommended high-sensitivity cardiac troponin testing can be used as part of a "rule-out" strategy for patients with suspected acute coronary syndrome. NICE have recommended the use of 2 assays in clinical practice – Abbott high-sensitivity cardiac troponin I assay and the Roche high-sensitivity cardiac troponin T assay. NHS Fife has introduced the Roche high-sensitivity cardiac troponin T assay.

We wanted to determine if introducing a "rule out" pathway for "low risk" patients with suspected acute coronary syndrome would be safe.

Study Is it safe to use a high sensitivity Troponin T assay for early "rule out" in patients with suspected Acute Coronary Syndrome?

Methods We carried out a retrospective study looking at all patients who had high-sensitivity cardiac troponin measured who were admitted to our Cardiac Care UNit, Emergency Department and Admissions Unit over a 10 month period. This was regardless of symptoms or time of onset.

Primary Endpoint: Those patients with initial high-sensitivity cardiac troponin levels under the diagnostic threshold of 14ng/L who went on to have a significant rise in their peak sample. An absolute delta rise >10 ng/L is used to determine if a rise is significant.¹

Secondary Endpoint: 30 day mortality rates and rate of myocardial infarction in those patients with an initial high-sensitivity cardiac troponin of <5 ng/L.

Results

- Total patients who had high sensitivity cardiac troponin tested 4521
- Patients who had only one sample taken 2539 - excluded
- Patients who had serial samples taken 1982 - included
- Patients with initial sample >14 ng/L 1045
- Patients with initial sample <14 ng/L 937 (M 476/F 461)

Primary Outcomes

- 444 (48%) of 937 patients had an initial sample <5 ng/L
- 5 patients (1.1%) went on to have a peak sample >10 ng/L
- This gave a negative predictive value (NPV) of 98.7% of a significant rise if initial sample is <5 ng/L.

Secondary Outcomes 30 day mortality was zero and 30 day myocardial infarction rate was 2 patients.

Discussion Only 2 of the 5 patients who went on to have a rise in their peak sample >10 ng/L had a type 1 Myocardial Infarction. The other 3 had atrial fibrillation, chronic pulmonary hypertension with recent normal coronary angiography and another was a known arteriopathy who had non obstructive coronary disease on angiography and did not have revascularisation.

Conclusions We have shown it is safe to use the Roche high-sensitivity cardiac troponin T assay in clinical practice as part of an early rule-out strategy for patients with suspected acute coronary syndrome.

Cardiac Troponin results should be interpreted in the context of the clinical presentation.