0.001) compared to baseline, likely due to the effects of anti-platelet medication.

Conclusions In patients with STEMI, endogenous thrombolysis, when impaired, is associated with increased cardiovascular risk, and when enhanced, with spontaneous reperfusion and favourable outcomes. Identification of impaired endogenous thrombolytic status may serve as a novel biomarker to identify high-risk patients who may benefit from enhanced pharmacotherapy to reduce adverse events.

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LEFT BUNDLE BRANCH BLOCK: IS IT TIME TO RECONSIDER THE CRITERIA FOR PRIMARY PERCUTANEOUS CORONARY INTERVENTION?

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Introduction The European Society of Cardiology includes ST-elevation and presumed new onset left bundle branch block (LBBB) as indications for immediate reperfusion therapy but LBBB may be caused by a number of alternative pathologies. Patients presenting with non ischaemic LBBB are potentially at risk of exposure to unnecessary medication and intervention ultimately leading to increased risk and needless cost. This audit sought to ascertain the proportion of patients presenting with chest pain and LBBB who were confirmed as having acute coronary syndrome (ACS) and how this compared to patients presenting with ST elevation and ST depression/T wave changes. We compared characteristics, such as age and gender and mortality data of patients with and without LBBB. We also explored characteristics that could potentially help to differentiate patients with LBBB into low and high likelihood of ACS.

Methods Data was obtained from our local MINAP database for 3103 patients who presented with chest pain over a 5 year period. Patients with LBBB were identified and demographic data including age and sex, as well as mortality rates were recorded. These factors were directly compared with patients who did not present with LBBB. Numbers of patients with LBBB and ACS were compared to patients presenting with ST elevation as well as ST depression/T wave changes on ECG. Comorbidity data was also examined to identify potential contributors to higher risk.

Results

Abstract 99 Table 1 Age, sex, diagnosis and in hospital mortality of patients presenting with either LBBB vs. ST elevation vs. ST depression/ T wave inversion

All ACS	n	% of total	Mean age	Male	Admission diagnosis ACS	Discharge diagnosis ACS	In-hospital mortality
LBBB	164	6.5	80	59%	63%	84%	14.6%
ST-elevation	1274	50.5	84	72%	89%	91%	5.8%
ST-depression/T-wave inversion	1083	43	71	68%	72%	98%	5.4%

Abstract 99 Table 2 Age, sex, percentage of PPCI undertaken, LV dysfunction and in hospital mortality in patients presenting with LBBB vs. ST elevation

PPCI Activations	n	% of total	Mean age	Male	PPCI undertaken	Severe LV dysfunction	In-hospital mortality
LBBB	26	2.3	70	77%	58%	19%	23%
ST-elevation	1082	97.7	68	79%	92%	3.2%	4.5%
Total	1108	100	68	79%	93%	3.6%	5%

Several factors appear to be useful in stratifying LBBB patients into low and high risk of ACS including previous MI, peripheral vascular disease, cerebrovascular disease, chronic renal failure and whether the patient was a current or ex smoker.

Conclusions Patients presenting with chest pain and LBBB represent only a small proportion of the total burden of ACS. They were not older, were less likely to be male but had significantly higher mortality rates than patients with non-LBBB ECG changes. LBBB triggering Primary PCI activation is only a very small component of the total volume of cases, is a much less accurate predictor of acute coronary occlusion, but is undoubtedly a marker of greatly increased risk of in-hospital mortality and early cardiologist review of these patients in the cath lab may well be beneficial. This audit suggests that further work should be undertaken to better understand the role of LBBB of predicting ACS and acute coronary occlusion in an increasingly elderly population.

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RE-INTRODUCTION OF PRE-HOSPITAL THROMBOLYSIS COULD IMPROVE STEMI OUTCOMES WHEN PRIMARY PERCUTANEOUS CORONARY INTERVENTION IS DELAYED

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Introduction Primary percutaneous coronary intervention (PPCI) is the treatment of choice for STEMI in the UK. Before this, thrombolysis represented the main treatment option, delivered in hospital (in-hospital thrombolysis, IHT) or prior to arrival (pre-hospital thrombolysis, PHT). Key to acceptance of the PPCI model is the timeliness of its delivery, with NICE recommending that PPCI should be delivered within 120 min of when fibrinolysis could have been given.

Methods We undertook a retrospective observational study to compare the outcome of patients with STEMI treated with either PPCI or thrombolysis (IHT or PHT) in a medium sized UK district general hospital. Data were obtained from the Myocardial Ischaemia National Audit Project (MINAP) database for patients admitted between 26/02/2002 and 11/11/2013 with a diagnosis of STEMI. Exclusion criteria were: LBBB, pre-hospital cardiac arrest, less than one year of follow up.

Patients (n = 1290) were analysed according to the reperfusion modality employed: PHT (n = 124), IHT (n = 354), PPCI (n = 664), no reperfusion therapy (n = 148). There were no significant differences in baseline characteristics of the three intervention groups (Table 1).

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)

101 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.