108 THE IMPACT OF MARITAL STATUS ON MORTALITY AND LENGTH OF STAY IN PATIENTS ADMITTED WITH MYOCARDIAL INFARCTION

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Introduction Ischaemic heart disease is the leading cause of mortality worldwide. The development of surgical and percutaneous interventions has improved survival rates, but the influence of sociodemographic factors on outcomes following MI and their potential use as predictors of such outcomes, are increasingly recognised. Conclusive studies show associations between marriage and lower incidences of IHD in addition to better survival prospects for married individuals suffering MI. There is however, a conflicting evidence base and a lack of literature considering the influence of marital status on LOS, which has been observed to be highly variable in MI patients.

Objectives From a large patient database, we aimed to investigate the impact of marital status on the prevalence, LOS and crude mortality of MI patients admitted in Northern England, UK.

Methods We compared marital status variations and associated LOS and mortality data by one way anova and cox regression respectively, using anonymous information on MI patients obtained from hospitals in North England between 1st January 2000 and 31st March 2013. This data was analysed according to the ACALM (Algorithm for Comorbidities, Associations, Length of stay and Mortality) study protocol, which uses ICD-10 and OPCS-4 codes to trace patients and demographics. P values <0.05 were taken as statistically significant.

Results Amongst 929552 patient admissions recorded during the study period there were 25287 cases involving a new diagnosis of MI. Mean age of MI patients was 66.6 years, 64.2% of the cohort were male and 80.3% were Caucasian. 38.2% of MI patients died and mean LOS was 7.0 days. Crude mortality was highest among widowed patients (62.9%). Logistic regression accounting for age, sex and gender showed that married (OR 0.863), widowed (OR 0.959) and unmarried patients (OR 0.973) had statistically lower mortality rates when compared to single people. LOS was statistically shorter for married patients (2.12 days shorter), and unmarried patients (2.66 days shorter) compared to a mean LOS of 8.2days recorded amongst single patients. Conversely, mean LOS was 1.82 days longer for widowed patients.

Conclusion Marital status has a clinically important impact on LOS and mortality of MI patients. In particular, single patients show higher mortality rates and longer LOS compared to married patients. It is reasonable to suggest that these results may be due to reduced social support at home and this should be taken into account when considering the holistic care of patients with MI.

Abstract 108 Table 1 Length of stay and mortality of patients admitted with ACS stratified by marital status

Marital Status	Prevalencen (%)	Mean LOS (Days)	Difference in mean LOS compared to single patients (95% confidence intervals)	Crude mortalityn (%)	Odds ratio for mortality compared to single patients (95% confidence intervals)
Single	2 531 (10.0%)	8.2	-	752 (29.7%)	-
Married	11 933 (47.2%)	6.1	-2.12 (-1.05, -3.20)***	4 098 (34.3%)	0.863 (0.798–0.933) ***
Divorced	1 105 (4.4%)	6.8	-1.38 (-3.14, 0.39)	378 (34.2%)	0.994 (0.934–1.058)
Widowed	4 004 (15.8%)	10.0	1.82 (0.58–3.07) ***	2 517 (62.9%)	0.959 (0.947–0.971) ***
Common Law Living	5 (0.02%)	7.8	-0.39 (-22.34, 21.55)	0 (0%)	No deaths
Unmarried	5 184 (20.5%)	6.0	-2.66 (-3.34, 0.96) ***	1 830 (35.3%)	0.973 (0.956–0.991) **
Separated	284 (1.1%)	10.5	2.26 (-0.80, 5.33)	78 (27.5%)	0.983 (0.945–1.022)
Unknown	241 (1.0%)	7.2	-1.00 (-4.31, 2.30)	0 (0%)	No deaths

* p < 0.05 ** p < 0.01 *** p < 001

109 MARKED DIFFERENCES IN THE PHARMACODYNAMICS OF MODERN P2Y12 INHIBITORS IN PATIENTS UNDERGOING TREATMENT FOR ST SEGMENT ELEVATION MI (STEMI) AND NON ST SEGMENT ELEVATION MI (NSTEMI)

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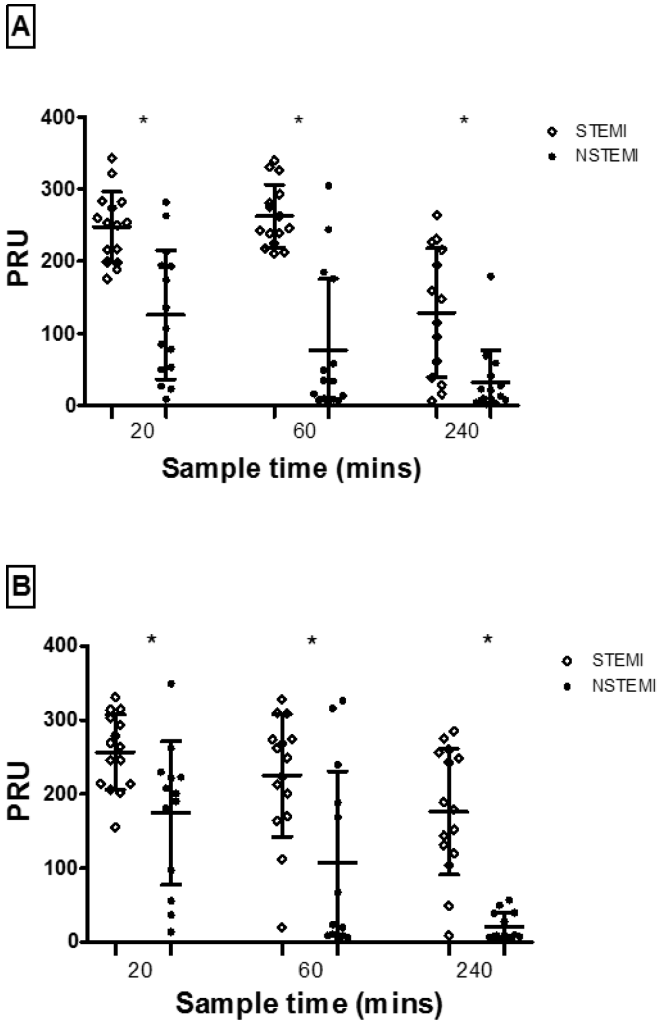
Introduction Current pharmacodynamic (PD) data suggest reduced antiplatelet effect in ST-Elevation myocardial infarction (STEMI) of prasugrel and ticagrelor. We sought to investigate the early PD effect of prasugrel and ticagrelor administered in two patient groups: those admitted with STEMI and a cohort admitted with NSTEMI/unstable angina (UA).

Methods P2Y12 inhibitor naïve patients presenting with STEMI or NSTEMI/UA were assessed for inclusion. All patients provided informed consent. All received aspirin (300mg) and loading dose of either prasugrel (60mg) or ticagrelor (180mg) in a non-randomised fashion. Platelet reactivity was measured using VerifyNow assay at 20 min, 1 and 4 h post loading. Results are expressed a P2Y12 reaction units (PRU). PRU≥208 indicates a sub optimal antiplatelet response. PRU over time was tested between groups using 2 way ANOVA, P < 0.05 was considered significant.

Results A total of 58 patients were enrolled (30 STEMI, and 28 NSTEMI/UA Table 1).

Results are shown in Fig 1. In the STEMI patients there was little effect of either agent at 20 min post loading (prasugrel PRU 247 + 48.8, ticagrelor PRU 256 + 50.8) with a limited effect at 1 h and persisting attenuated results at 4 h. In the NSTEMI group however there was a marked and rapid antiplatelet effect of both agents at all time points. Over time there was a significant difference between the effect of both prasugrel (P < 0.001) and ticagrelor (P < 0.001) in STEMI patients vs NSTEMI patients. There was no significant



Abstract 109 Figure 1 The degree of inhibition of platelet reactivity (expressed as PRU) over time following the administration of prasugrel (A) and ticagrelor (B) in STEMI and NSTEMI patients. PRU = P2Y12 reactivity units

difference in the effect of ticagrelor vs prasugrel over time in either STEMI or NSTEMI/UA.

Conclusion Prasugrel and ticagrelor in the context of STEMI do not provide adequate P2Y12 inhibition at reperfusion and the first hour post loading when compared to patients with NSTEMI/UA.

Abstract 109 Table 1 Baseline characteristics

Characteristic	STEMI (N=30)	NSTEMI (N=28)	P-value
Age (yrs)	59.94 ± 12.68	61.61 ± 11	0.595
Female	7	3	0.301
Diabetes Mellitus	6	12	0.089
Hypertension	14	13	1
Current Smoker	7	4	0.508
Ex-Smoker	12	11	1
Hyperlipidaemia	8	16	0.032
Familial History of CAD	17	15	1

CAD = Coronary Artery Disease

110 THE PROTHROMBOTIC RISK OF PATIENTS WITH TYPE 2 DIABETES IN STABLE AND UNSTABLE CORONARY ARTERY DISEASE

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Aims/hypothesis Clot properties are altered in acute coronary syndromes (ACS). However, data on clot properties and the impact of concomitant disease and medication in patients with diabetes in ACS are incomplete. Therefore, the present study investigates clot parameters in stable and unstable coronary artery disease (SCAD and UCAD respectively).

Methods Hundred-eighty patients were included in a consecutive manner based on their diabetes and CAD status between March 2012 and December 2014. Clot properties were determined by a turbidimetric assay in 90 controls (noCAD N=39; SCAD N=29;, UCAD N=22) and 90 patients with diabetes (noCAD N=21; SCAD N=41; UCAD N=28).

Results Clot structure was not affected by CAD status. However, clot lysis time was significantly increased in UCAD compared to SCAD and absence of CAD in control patients (1414 ± 703, 915 ± 461 and 1069 ± 414 respectively; p = 0.003). In contrast, in patients with DM clot lysis time did not differ between UCAD, SCAD and absence of CAD (1260 ± 649, 1304 ± 658 and 1318 ± 675 respectively; p = 0.947). Interestingly, clot lysis time in diabetes patients without CAD was comparable to UCAD control patients (p = 0.654). In an adjusted multiple regression model clot lysis time was significantly predicted by PAI-1 (p = 0.023), CRP (p = 0.042) and presence of UCAD (NSTEMI p = 0.010, STEMI p = 0.002) in control patients. Strikingly, in diabetes patients solely PAI-1 (p = 0.004) predicted clot lysis time.

Conclusions Unstable coronary artery disease leads to an increase in clot lysis time in control patients. In contrast, clot lysis time in patients with diabetes is not affected by UCAD. Strikingly, clot lysis time in diabetes patients without CAD is comparable to control patients with UCAD indicating their increased prothrombotic risk already present in a stable situation.

111 THE DEGREE AND TIME COURSE OF PLATELET INHIBITION FOLLOWING THE ADMINISTRATION OF ORAL ANTIPLATELET AGENTS IN PATIENTS PRESENTING WITH ST ELEVATION MI (STEMI)

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Introduction Oral P2Y12 inhibitors have proven clinical efficacy in a variety of cardiological settings. The degree and time course of platelet inhibition using common P2Y12 inhibitors during the acute phase of a myocardial infarction is an under explored area. We aimed to determine the effect of clopidogrel, prasugrel and ticagrelor in the first four hours following loading in patients admitted with STEMI undergoing primary percutaneous coronary intervention (PPCI).