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OUT OF HOURS PRIMARY PCI IS NOT ASSOCIATED WITH INCREASED ADVERSE OUTCOMES COMPARED TO IN-HOUR PROCEDURES

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Background Primary percutaneous coronary intervention (PPCI) is the treatment of choice for ST-segment elevation myocardial infarction (STEMI) provided PPCI is performed in a timely manner. There is conflicting data regarding the outcomes of patients treated in-hours versus out of-hours, we sought to determine whether in-hospital and long-term outcomes are different among in-hours versus out of hours PPCI patients.

Methods This was an observational study of 3347 STEMI patients treated with PPCI between 2004 and 2012 at a single centre with follow-up for a median of 3.3 years (IQR range 1.2–4.6 years). The primary end-point was long-term major adverse cardiac events (MACE) with all cause mortality a secondary endpoint. Of these, 1299 patients (38.8%) underwent PPCI during a weekday between 08:00 and 18:00 (routine-hours group) and 2048 (61.2%) underwent PPCI on a weekday between 18:00 and 08:00 or a weekend (out-of-hours group).

Results There were no differences in baseline characteristics between the two groups with comparable door to balloon times (IHs 67.8 min vs OOHs 69.6 min, p=0.709) and procedural success (table 1). In hospital mortality rates were comparable between the two groups (IHs 3.6% vs OFHs 3.2%) with timing of presentation not predictive of outcome (HR 1.25 (95% CI 0.74 to 2.11). Over the follow-up period there were no significant differences in rates

Table 1

	In hours (n=1299)	Out of hours (n=2048)	p Value
Gender (Male)	74.2%	77.1%	0.051
Age (years)	64.02±14.2	63.16±14.3	0.126
Hypertension	39.2%	38.3%	0.344
Diabetes mellitus	17.3%	17.7%	0.424
Hypercholestrolaemia	30.9%	29.7%	0.253
Smoking history	55.6%	58.0%	0.116
Previous MI	13.2%	11.8%	0.156
Previous CABG	2.6%	2.6%	0.539
Previous PCI	9.9%	9.6%	0.449
Cardiogenic shock	5.3%	6.4%	0.113
Ethnicity (Caucasian)	66.6%	64.4%	0.226
LVEF	43.70±7.5	43.69±7.5	0.985
CRF (eGFR <60)	18.5%	17.9%	0.227

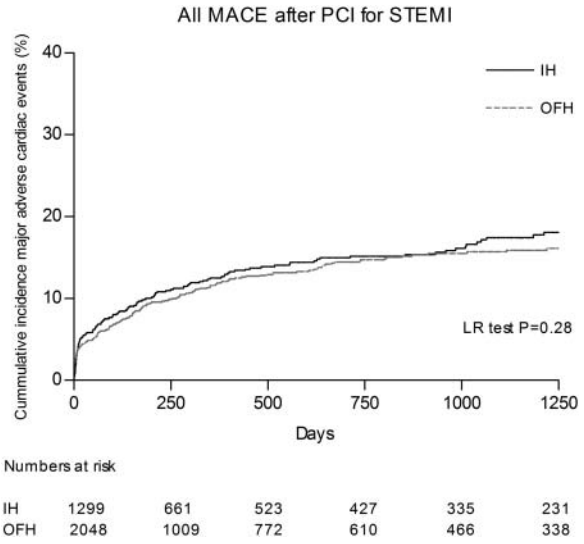

Figure 1

of mortality (IHs 7.4% vs OFHs 7.2%, p=0.44) or MACE (IHs 15.4% vs OFHs 14.1%, p=0.28) (figure 1) between the two groups. After adjustment for confounding variables using multivariate analysis, timing of presentation was not an independent predictor of mortality (HR 1.04 95% CI 0.78 to 1.39).

Conclusions This large registry study demonstrates that in a large volume, well-staffed centre, PPCI outside routine-working hours is safe with no difference in outcome compared with PPCI during routine-working hours.