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THE EFFECT OF GLYCOPROTEIN IIBIIIA INHIBITORS ON MORTALITY FOLLOWING PCI FOR NSTEMI/UA

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doi:10.1136/heartjnl-2013-304019.40

Background The use of GPIIb/IIIa inhibitors has been shown to improve both short and long-term outcome in patients undergoing PCI post ACS (Non-ST elevation MI/UA), however many of these trials were performed before routine ADP receptor antagonist use. Concerns over their side effect profile have led to their reduced use in current practice, especially with the addition of newer more potent anti-platelets. We set out to investigate whether GpIIbIIIa inhibitor use was associated with improved outcomes in NSTEMI/UA patients.

Methods We undertook an observational study at an interventional cardiology centre involving 5227 patients who underwent PCI for NSTEMI/UA from October 2003 to July 2011. All patients received dual antiplatelet therapy of clopidogrel and aspirin. Outcome was assessed by all-cause mortality information provided by the Office of National Statistics via the BCIS CCAD national audit.

Results 43.6% of patients were treated with GpIIbIIIa inhibitors. Baseline characteristics (table 1) show patients treated with GpIIbIIIa inhibitors were younger, more likely to be male, and have fewer comorbidities including previous MI, renal disease and peripheral vascular disease. They were less likely to have multivessel disease and more likely to have a successful angiographic result following PCI.

Kaplan-Meier analysis showed GpIIbIIIa inhibitor use was associated with significantly improved survival ($p<0.001$; figure 1) and reduced rates of recurrent MI ($p<0.001$) and target vessel revascularisation ($p<0.001$). However, GpIIbIIIa inhibitor use was associated with an increased risk of bleeding ($p=0.001$). The survival advantage was maintained in age-adjusted Cox regression analysis (HR 0.8; 95% CI 0.683 to 0.938; $p=0.006$). However, on multivariate analysis this benefit was lost (HR 0.933; 95% CI 0.762 to 1.142; $p=0.501$; figure 2).

Table 1

Variable	No GpIIbIIIa used (n=2947)	GpIIbIIIa used (n=2280)	Significance (p)
Age (years)	65.1 (±12.4)	62.0 (±12.2)	<0.001
Female	849 (28.8%)	576 (25.3%)	0.004
Diabetes	714 (24.2%)	551 (24.2%)	0.677
Previous MI	993 (33.7%)	608 (26.7%)	<0.001
Renal disease	137 (4.65%)	42 (1.84%)	<0.001
Previous CVA	74 (2.51%)	40 (1.75%)	0.195
PVD	111 (3.77%)	49 (2.15%)	0.007
Multivessel disease	177 (6.01%)	97 (4.25%)	0.008
Successful result	2847 (96.6%)	2253 (98.8%)	<0.001

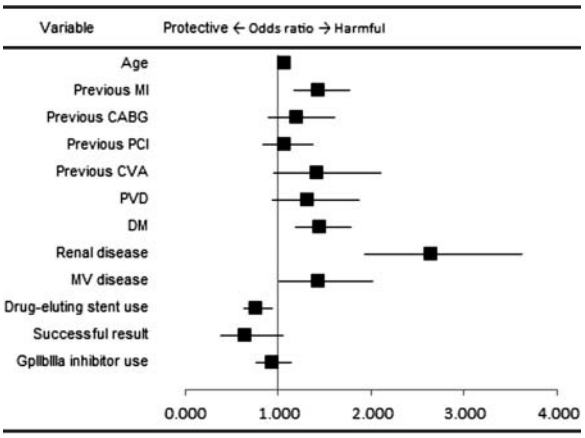

Figure 1 Kaplan-Meier estimate showing improved survival for patients treated with GpIIbIIIa inhibitors ($p<0.001$).

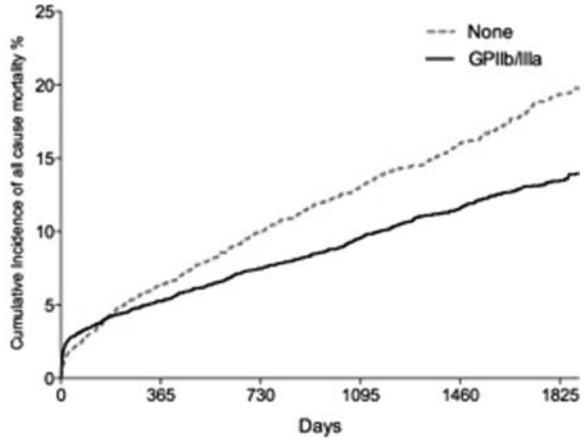

Figure 2 Multivariate Cox regression analysis showing no significant improvement in mortality with GpIIbIIIa inhibitor use.

Conclusion Whilst GpIIbIIIa inhibitor use was associated with a significant protective effect in age-adjusted regression analysis, this benefit disappeared when the significant baseline disparities seen in these patients were accounted for.