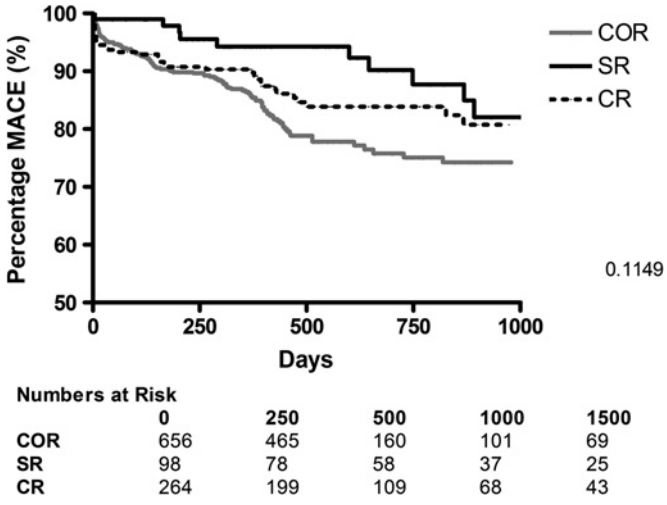
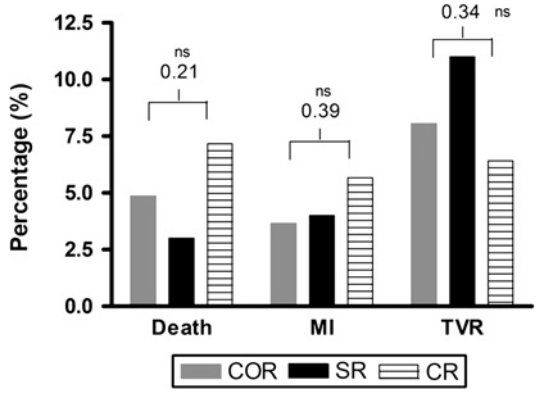
up to 1-year of follow-up with the lowest rates of events in the SR group. However after 3 years MACE rates are significantly increased in the COR group (24%) but were similar in the CR (18%) and SR (17%) groups. See Abstract figure 1. MACE rates were driven mainly by death in the CR with high rates of TVR in the COR and SR groups. See Abstract figure 2.

Abstract 19 Table 1

	COR N=638	SR N=100	CR N=263	Significance
Age	64.77	61.46	64.32	0.144
Gender (female)	156 (23.7%)	13 (13.0%)	74 (27.9%)	0.0114
Ethnicity (Caucasian)	441 (67.0%)	79 (79.0%)	185 (69.8%)	0.0511
Previous MI	109 (16.6%)	11 (11.0%)	36 (13.6%)	0.2414
Previous CABG	15 (2.3%)	2 (2.0%)	3 (1.1%)	0.5231
Previous PCI	83 (12.6%)	5 (5.0%)	23 (8.7%)	0.031
Diabetes Mellitus	129 (19.6%)	16 (16.0%)	55 (20.8%)	0.5932
Hypertension	312 (48.1%)	40 (40.0%)	91 (41.2%)	0.1205
Hypercholestrolaemia	269 (41.5%)	37 (37.0%)	92 (41.6%)	0.7751
GPIIb/IIIa Inhibitor	572 (87.7%)	93 (93.0%)	231 (89.5%)	0.1724
Cardiogenic Shock	29 (4.7%)	2 (2.0%)	31 (12.26%)	p<0.0001



Abstract 19 Figure 1 Comparison of MACE between multivessel disease.



Abstract 19 Figure 2 Breakdown of MACE at 5 years.

Conclusions Culprit vessel-only angioplasty was associated with the highest rate of long-term MACE compared with multivessel treatment. Patients scheduled for staged revascularisation experienced a similar rate of MACE to patients undergoing complete simultaneous treatment of non-IRA.

20 WHAT HAPPENS TO PLATELET FUNCTION AND VASCULAR INFLAMMATION WHEN CLOPIDOGREL IS WITHDRAWN? INSIGHTS USING SHORT THROMBELASTOGRAPHY

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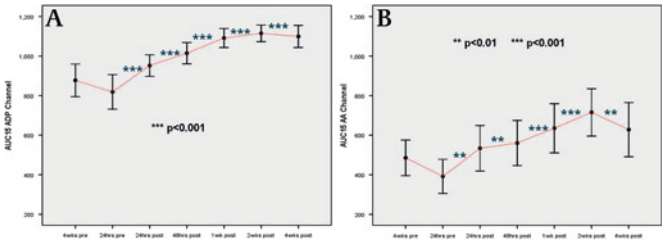
Introduction A clustering of adverse events, in particular stent thrombosis (ST) has been observed following clopidogrel cessation 1-year after drug-eluting stenting (DES), the aetiology of which is poorly understood. We investigated the effect of withdrawing clopidogrel in DES patients using a simple, rapid, reproducible near-patient platelet function test known as short Thrombelastography (s-TEG) that has been developed and validated by this group.

Methods 33 patients on aspirin and due to stop clopidogrel at 1 year following DES were investigated. Venesection was performed at (i) 4 weeks and 24 h pre clopidogrel cessation (ii) 24 h, 48 h, 1, 2 and 4 weeks post clopidogrel cessation. At all time-points, platelet reactivity was determined using s-TEG and thromboxane (TX) B2, IL-6, CD40 ligand and high sensitivity CRP were measured.

Results Clopidogrel cessation produced (i) a predictable increase in ADP-induced platelet aggregation, and (ii) an unexpected and significant rise in AA-induced platelet aggregation. TXB2 was consistently suppressed confirming inhibition of COX by aspirin.



Abstract 20 Figure 1

Conclusion We have described for the first time an aspirin-independent increase in AA-induced clotting following clopidogrel withdrawal in DES patients. As well as potentially helping to explain the observed clustering of ST events early after clopidogrel withdrawal, these findings raise the question as to whether AA-induced clotting is an appropriate test of aspirin sensitivity. Our results also confirm s-TEG as a plausible candidate for near-patient platelet function testing in this field.

21 INFLUENCE OF FRACTIONAL FLOW RESERVE MEASUREMENT ON TREATMENT-DECISIONS IN PATIENTS WITH RECENT ACUTE NON-ST ELEVATION MYOCARDIAL INFARCTION

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Introduction Non-ST elevation acute myocardial infarction (NSTEMI) is the most common form of acute coronary syndrome and has a relatively poor prognosis. Visual interpretation of the coronary angiogram is the standard approach to guide treatment decisions in patients with recent acute NSTEMI. The aim of our study was to determine whether measurement of coronary pressure derived fractional flow reserve (FFR), compared to coronary angiography alone, might influence treatment decisions.

Setting The cardiac catheterisation laboratory in a regional heart centre in the UK.
Definitions The clinical indication for FFR measurement was the presence of an intermediate coronary stenosis (50%—75% of the reference vessel diameter) which resulted in diagnostic and treatment uncertainty. FFR measurement was used to provide functional information on lesion severity and an FFR <0.80 was taken to represent a flow-limiting stenosis.
Methods The study involved three accredited interventional cardiologists and a study coordinator. The cardiologists separately reviewed the coronary angiograms and together with the clinical history, made a decision for medical therapy, PCI, CABG/MDT, or deferred management. The FFR results were then disclosed and the initial management decision was reviewed in light of the FFR result and changed as appropriate.
Results Of 1621 acute NSTEMI patients (January 2009—March 2010) in our hospital, 100 (6.2%) had FFR recorded. The treatment decisions for each cardiologist were: medical therapy 7%, 10%, 1%; PCI 64%, 70%, 60%; CABG/MDT 13%, 12%, 15%; deferred management 16%, 8%, 24%). The proportion of patients allocated to each treatment group differed between the 2nd and 3rd Cardiologist (p=0.02). Following FFR disclosure, each cardiologist changed his/her treatment decision in 58%, 50% and 62% of patients (p<0.05). Of the new decisions made following FFR disclosure, the proportion of patients allocated to medical therapy increased by 26%, 19% and 29%, whereas the proportion of patients allocated to deferred management or multivessel PCI decreased by 16%, 8%, 24% and by 5%, 7% and 5%, respectively (all p<0.05). The number of patients in whom the treatment decisions made by each cardiologist independently conformed (and so represented a consensus in at least 2 of the 3 decisions) increased from 74% to 92% as a result of FFR disclosure (p<0.001).
Conclusion In our hospital about 1 in 20 NSTEMI had a coronary pressure wire study because of diagnostic uncertainty based on coronary angiography alone. In NSTEMI patients selected for FFR measurement, the FFR resulted in a change in management in at least half of the patients. FFR use increased the proportion of patients in whom treatment decisions conformed suggesting FFR use may also help to reduce the variation in treatment decisions using angiography alone. These results support further studies of the clinical utility and prognostic implications of FFR measurement in patients with NSTEMI.

22 COMPARISON OF 4-H HEART FATTY ACID BINDING PROTEIN WITH 12-H TROPONIN I TO ASSESS 6-MONTH RISK FOLLOWING PERCUTANEOUS CORONARY INTERVENTION IN ACUTE CORONARY SYNDROMES

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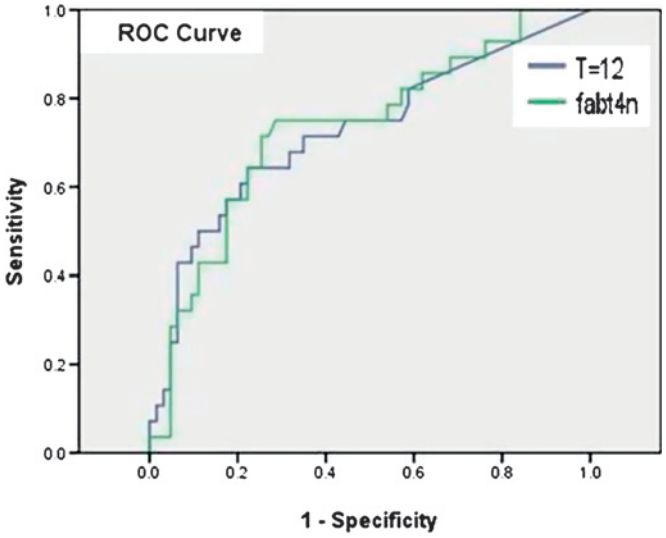
Background It is known that PCI can cause myocardial injury leading to the release of cardiac biomarkers into the circulation (procedural MI). This occurs in approximately one third of procedures and has been shown to impact negatively on prognosis. Monitoring for procedural MI, although not yet standard practice, is increasingly undertaken as a measure of quality control, and may be a factor when deciding time of discharge from hospital following the procedure. The use of TnI to screen for procedural MI requires a wait of 12-h post procedure before the blood sample may be taken, and an impact on length of hospital stay is inevitable. Heart-type Fatty Acid Binding Protein (H-FABP) is a small protein released rapidly and in large quantities from the myocardium into the circulation, both during ischaemia and following necrosis. It allows detection of myocardial injury associated with PCI earlier than with TnI.
Hypothesis H-FABP at 4 h provides equivalent prognostic information to TnI at 12 h following PCI-induced myocardial injury.
Methods We studied 94 patients with ACS admitted to a single UK Teaching Hospital for PCI. We used the Randox Cardiac-Array to measure H-FABP at 4 hrs after PCI and troponin I at 12 h after PCI. Comparison of specificity and sensitivity of each biomarker for adverse cardiac events was made. Endpoint assessment consisted of one of the following three events (i) PC-induced MI (ii) readmission with MI by 6 months (iii) death by 6 months.
Results The area under the receiver operator curve was 0.73 for H-FABP measured at 4 h as compared to 0.72 for TnI measured as 12 h.
Conclusion Early assessment of PCI-induced myocardial injury using the Randox Cardiac-Array to measure H-FABP is as sensitive and specific for adverse prognosis as is TnI measurement taken at 12 h post PCI. This approach should help to expedite early, safe hospital discharge following PCI.



Abstract 22 Figure 1

23 SERUM NGAL IDENTIFIES CONTRAST NEPHROPATHY EARLY IN PATIENTS WITH DIABETES MELLITUS AND CHRONIC KIDNEY DISEASE UNDERGOING CORONARY ANGIOGRAPHY AND ANGIOPLASTY

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Background The incidence of contrast nephropathy (CIN) following coronary angiography or percutaneous coronary intervention (PCI) in patients with diabetes mellitus (DM) may be up to 30% and is associated with increased long term morbidity and mortality.
Methods We recruited 208 consecutive patients undergoing elective or urgent coronary angiography or PCI with known DM and chronic kidney disease (CKD) (defined as eGFR <60 ml/min). CIN was defined as a post procedure rise in creatinine at day 3 of >25% from baseline or an absolute rise of 44.5 μmol/l. Severity of coronary disease was assessed using the SYNTAX Score and risk of CIN using the Mehran risk score. We evaluated serum and urine neutrophil gelatinase-associated lipocalin (NGAL) and albuminuria for additional information about CIN risk. N-acetylcysteine and intravenous hydration were given to all patients with eGFR <50 ml in accordance with local guidelines.
Results Baseline characteristics are summarised in table 1. 116 patients underwent coronary angiography and 92 underwent PCI. 39 patients (18.8%) developed CIN. Contrast dose was similar in the CIN and non-CIN group (p=0.249). The Mehran risk score was strongly