

28 **IMPACT OF OPIATE ANALGESIA ON PLATELET REACTIVITY IN PATIENTS PRESENTING FOR PRIMARY PERCUTANEOUS CORONARY INTERVENTION**

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**Background** ST-elevation myocardial infarction (STEMI) is caused predominantly by occlusive coronary thrombosis and treated with antiplatelet medications and primary percutaneous coronary intervention (PPCI). Pain is conventionally treated with opiates. Opiates may delay gastric transit and thus may reduce absorption of oral antiplatelet medication, which may impact on the ability of these drugs to reduce platelet reactivity. We sought to assess thrombotic state of STEMI patients receiving antiplatelet medications undergoing PPCI, according to morphine use.

**Methods** Patients with STEMI (n = 125) scheduled to undergo emergency PPCI, were assessed upon presentation (pre-PPCI) and again on day 2 of the admission after stabilisation on dual antiplatelet therapy. All patients were pre-treated with oral loading doses of 300 mg aspirin and either ticagrelor 180 mg (n = 23) or clopidogrel 600 mg (n = 102) approximately 30–60 min before blood sampling. Thrombotic status was assessed by testing venous blood using the point-of-care Global Thrombosis Test (GTT), which measures the time to form an occlusive thrombus under high shear (occlusion time, OT), and time to restore flow due to endogenous thrombolysis (lysis time, LT).

**Results** Patients treated with morphine (n = 101; 81%) exhibited enhanced platelet reactivity, as evidenced by shorter OT (mean  $\pm$  SD; 358  $\pm$  143s vs. 670  $\pm$  134s; p < 0.001), and reduced thrombolytic potential, as evidenced by longer LT (median 1392s [IQR 1104–1864] vs. 1084s [875–1331]; p = 0.006) compared to those who had not received opiates. By day 2, no difference was apparent (OT: 485  $\pm$  142s vs. 552  $\pm$  173s; p=NS and LT: 1322s [1187–1587] vs. 1184s [1051–1405]; p=NS) between the two groups.

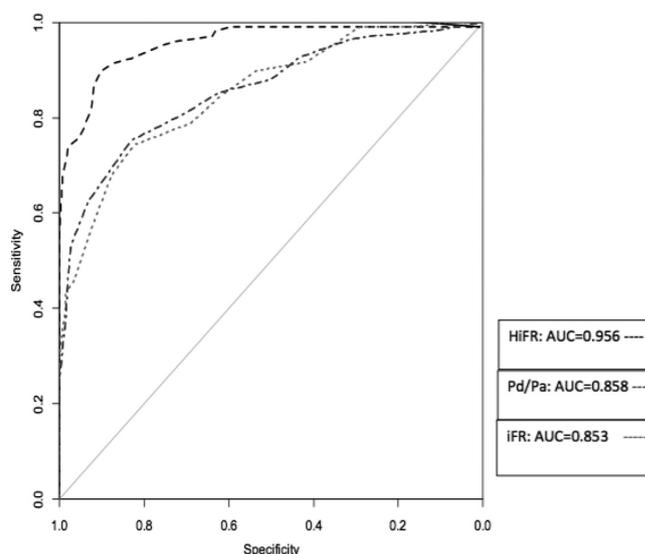
**Conclusions** Patients receiving morphine analgesia before arrival to the catheterisation laboratory demonstrate enhanced platelet reactivity and impaired endogenous thrombolysis compared to those who did not, which may be attributable to reduced absorption of antiplatelet medications due to opiate-induced delayed gastric transit. This difference was no longer apparent by day 2. Whether this impacts on recurrent early thrombosis risk, and whether non-opiate analgesia may proffer advantages in this setting, requires further assessment.

29 **VERIFY 2 (FINAL RESULTS): A COMPARISON OF FFR VS RESTING INDICES OF STENOSIS SEVERITY FOR DECISION MAKING IN THE CATH LAB. NCT02377310**

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Distal coronary to aortic pressure ratio (Pd/Pa) and instantaneous wave-free ratio (iFR) are resting indices of the functional significance of a coronary stenosis measured without inducing



**Abstract 29 Figure 1** Receiver operator characteristic curves demonstrating diagnostic accuracy of iFR, Pd/Pa and HiFR in reference to FFR <0.80 Delong's test p-values for 2 correlated ROC curves: iFR vs iFR: 0.0001, HiFR vs Pd/Pa: 0.0003

hyperaemia. It has been suggested that iFR has superior diagnostic accuracy to Pd/Pa when both are compared to FFR.

**Hypotheses** In comparison to an FFR for all strategy, revascularisation decisions based on either binary cut-off values for iFR or Pd/Pa or hybrid strategies incorporating iFR or Pd/Pa will result in similar levels of disagreement.

**Methods** A prospective study in consecutive patients undergoing FFR assessment for clinical indications using proprietary software to calculate iFR. We measured Pd/Pa, iFR, FFR and hyperaemic iFR (HiFR). Diagnostic accuracy vs FFR was calculated firstly using binary cut-off values of <0.90 for iFR and  $\leq$ 0.92 for Pd/Pa and again using the adenosine zones for iFR of 0.86–0.93 and Pd/Pa of 0.87–0.94 in the hybrid strategy. The pre-determined sample size established prior to the start of the study was 254 vessels.

**Results** 197 patients with 257 moderate stenoses (mean DS 48%) were studied. 127 (49.4%) vessels were in patients with stable angina and 79 (31%) vessels in patients with recent (>72 h) acute coronary syndromes. Using binary cut-off values diagnostic accuracy was similar for iFR and resting Pd/Pa with misclassification rates of 20.6% vs 19.8%, p = 0.86. In the hybrid analysis, 54% of iFR cases and 53% of Pd/Pa cases were outwith the adenosine zone. Rates of misclassification

**Abstract 29 Table 1** Sensitivity analyses for iFR in proximal vs distal segments using  $\leq$  0.9 cut-off compared with FFR. Proximal vs Distal – comparison of 2 proportions: 95% CI = (0.0248, 0.225), Pearson Chi-sq test of assoc: p = 0.014 Fisher's exact test: p = 0.021

Modality	Value	FFR $\leq$ 0.8	FFR>0.8	Misclassification (%)
iFR proximal (1,11,5,6)	$\leq$ 0.9	33	15	27.7
	>0.9	18	53	
iFR distal ( $\neq$ 1,11,5,6)	$\leq$ 0.9	48	11	15.2
	>0.9	10	63	