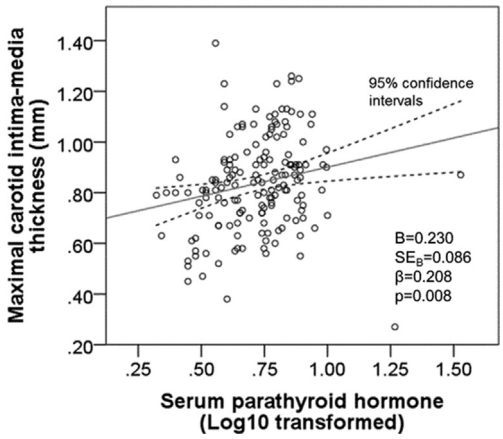
coefficient of PTH (β=0.199 to β=0.213, 7.0%) and was not a significant predictor of CIMT (p=0.209), suggesting that the relationship was not mediated by vitamin D.

Conclusion In this high-risk older cohort, high serum PTH levels are associated with increased CIMT independent of traditional atherosclerotic risk factors.



Abstract 56 Figure 1

57 SERUM TOTAL VITAMIN D LEVELS ARE NOT ASSOCIATED WITH ENDOTHELIAL DYSFUNCTION, VASCULAR STIFFNESS OR EARLY ADVERSE OUTCOMES AFTER INVASIVE MANAGEMENT OF NON-ST ELEVATION ACUTE CORONARY SYNDROME IN OLDER PATIENTS

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Introduction Vitamin D may be an important biomarker of cardiovascular disease. Older patients are at particularly high risk of adverse outcomes following non-ST elevation acute coronary syndrome (NSTEACS). Low vitamin D has been previously linked to endothelial dysfunction and vascular stiffness. Therefore, the higher incidence of low vitamin D in older adults may play a plausible mechanistic role in predisposing this cohort to higher risk. The association between vitamin D, endothelial function, vascular stiffness and early outcomes after invasive management of NSTEACS in older patients was evaluated.

Methods We evaluated 294 consecutive older patients (aged 65 years) with NSTEACS managed by an invasive strategy. Serum total vitamin D was measured pre-procedure by electrochemiluminescent immunoassay. Endothelial function was determined using peripheral arterial tonometry and vascular stiffness with carotid-femoral pulse wave velocity (PWV), both within 24 hours post-procedure. Major Adverse Cardiovascular Events (MACE) were defined as 30 day composite of all-cause mortality, acute coronary syndrome, unplanned repeat revascularisation, significant bleeding, stroke or transient ischaemic attack. Multivariate linear and logistic regressions were performed controlling for age, sex, serum triglycerides, hypertension, diabetes and smoking status.

Results Mean age was 80.5±4.8 years (61.9% male). Median vitamin D level was 29.5 nmol/L [IQR 16.0–53.0 nmol/L] and was split into quartiles for analysis: Q1 (16.0 nmol/L, n=72), Q2 (17.0–29.5 nmol/L, n=75), Q3 (30.0–53.0 nmol/L, n=72) and Q4 (54.0 nmol/L, n=72). There was no difference in endothelial function (p=0.337) or PWV (p=0.633) between the vitamin D quartiles. There was no adjusted linear relationship between vitamin D and PWV (p=0.410) or endothelial function (p=0.490). MACE incidence did not differ between quartiles (Q1 2.7%; Q2 0%; Q3 5.3%; Q4 5.6%; p=0.210) and adjusted for confounders, did not significantly predict MACE (p=0.083).

Conclusion In this high-risk older cohort, pre-procedural serum total vitamin D level is not associated with endothelial dysfunction or vascular stiffness and is not predictive of short-term outcomes after invasive management of NSTEACS.

58 OPTIMAL RISK STRATIFICATION PATHWAYS FOR PATIENTS WITH SUSPECTED ACUTE CORONARY SYNDROME

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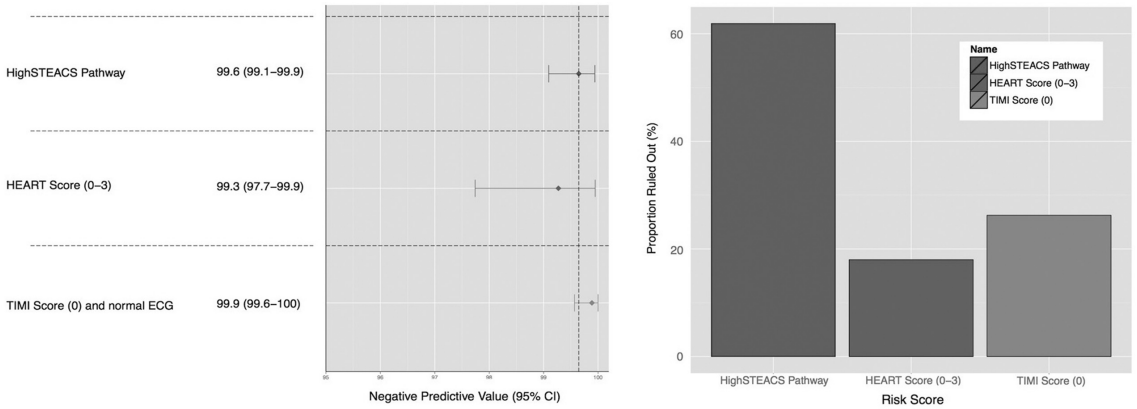
Background Novel pathways utilise low concentrations of cardiac troponin and a normal ECG to risk stratify patients with suspected acute coronary syndrome. However, clinical risk scores incorporating additional cardiovascular risk factors or physiological parameters are commonly used in practice. Whether such clinical risk scores are safer than novel pathways is uncertain.

Methods Patients with suspected acute coronary syndrome (n=1,139) underwent high-sensitivity cardiac troponin I testing at presentation, 3 and 6 or 12 hours. We applied the High-STEACS pathway, which rules out myocardial infarction in those without ischaemia on the ECG if troponin concentrations are <5 ng/L at presentation and symptom duration is 2 hours. Early presenters and those 5 ng/L are ruled out if absolute change is <3 ng/L at 3 hours and they remain 99th centile. We compared the HighSTEACS pathway with the HEART score (low risk 3), or a TIMI score of 0 with a normal ECG. We compared the negative predictive value (NPV) and efficacy of each approach for a primary outcome of index type 1 myocardial infarction, or type 1 myocardial infarction or cardiac death at 30 days.

Results The primary outcome occurred in 15.5% (177/1,139). The HighSTEACS pathway ruled out 61.9% (705/1,139) of patients by three hours, with a NPV of 99.6% [95%CI 99.1%–99.9%]. The NPV of both the HEART and the TIMI score was similar ***(Figure 1A)***, however, they identified a significantly lower proportion of patients as eligible for discharge (HEART 18% (205/1,139), TIMI 26.3% (299/1,139); ***Figure 1B***).

Conclusions The HighSTEACS pathway identifies patients at very low risk of index myocardial infarction, or myocardial infarction or cardiac death at 30 days, and rules out acute coronary syndrome in over half of patients presenting to the Emergency Department. Whilst the HEART and the TIMI



Abstract 58 Figure 1

scores have a comparable safety profile, they identify a significantly lower proportion of patients as low risk.

59 ARE TYPE 2 MYOCARDIAL INFARCTIONS CLOUDING THE MINAP DATABASES MORTALITY DATA?

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Background The Myocardial Ischemia National Audit Project (MINAP) is a national clinical registry of the management of Myocardial Infarctions (MIs) and Acute Coronary Syndromes. It was established in 1998 to allow participating hospitals to compare performance against national standards. There are 5 separate classifications for MIs(1) – MINAP should only include Type 1 (spontaneous myocardial infarction) and Type 3 (Myocardial infarction resulting in death when biomarkers unavailable) MIs(2). Type 2 MIs (MI secondary to ischaemic imbalance), have a heterogeneous aetiology, commonly have ECG changes and troponin rises, have a high mortality and are often reported to MINAP. Different hospitals have different mechanisms for determining whether an MI is reported to MINAP. Our institution report to MINAP if a diagnosis of NSTEMI or ACS is documented after clinical evaluation.
Objective To retrospectively determine the rate of type 2 MIs amongst patients who died that were reported to MINAP over a 3 year period, in a single tertiary centre over a 3 year period.
Method We analysed all deaths over a 3 year period (15th March 2012 – 31st March 2016) sent to MINAP. Two independent researchers reviewed each set of notes to determine the diagnosis (type of MI) and appropriateness of inclusion within MINAP. If there remained doubt about the diagnosis, cases were referred to an independent panel. (n=2)
Results A total of 142 patients (mean age of 79±12, 46% female). The final diagnosis was type 1(n=113 – 80%), type 2 (n=22 – 15%), type 3 (n=7 – 5%). Of the 22 cases with type 2 MI, all had an elevated troponin (range 7 – 3231 ng/L); abnormal ECGs (n=22: LBBB (n=5), ST depression (n=9), T wave changes (n=6) or no acute changes (n=2)). In 22 cases the troponin rise was in the context of a secondary illness sepsis (n=12), end stage heart failure (n=4), other (n=6). 18 patients died in an acute admissions unit (A and E or AMU). None of these patients had a review by a consultant cardiologist prior to their demise.
Conclusions If the government is to publish MINAP mortality rate league tables, inclusion or otherwise of type 2 MIs will influence results. Our audit identified a cohort of patients, with significant mortality but who were inappropriate for inclusion into the MINAP database. Centres should scrutinise their methods for MINAP inclusion.

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60 CARDIOGONIOMETRY VS THE 12-LEAD ELECTROCARDIOGRAM AT IDENTIFYING THE CULPRIT LESION IN PATIENTS WITH WITH NON-ST SEGMENT ELEVATION MYOCARDIAL INFARCTION: THE COGNITION STUDY

[1]Oliver I Brown*, [2]Benjamin Davison, [2]Jennifer A Rossington, [2]Andrew L Clark, [2]Angela Hoye. *[1]Hull York Medical School; [2]Hull and East Yorkshire Hospital NHS trustCardiogoniometry, non-ST segment elevation myocardial infarction, Electrocardiography*

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Introduction Cardiogoniometry (CGM) is a method of 3-dimensional electrocardiographic assessment which provides detailed spatial and temporal information about cardiac electrical activity. The 12-lead electrocardiogram (ECG) is instrumental at localising ischaemia in patients with ST-elevation myocardial infarction, however ECG changes in non-ST elevation myocardial infarction (NSTEMI) are often non-specific for an ischaemic territory. The aim our our study was to evaluate the ability of CGM to identify the culprit lesion in patients with NSTEMI
Methods At a tertiary cardiology centre, patients with a diagnosis of NSTEMI were consecutively recruited in a prospective, double blind, observational study. CGM and 12-lead ECG recordings were performed prior to coronary