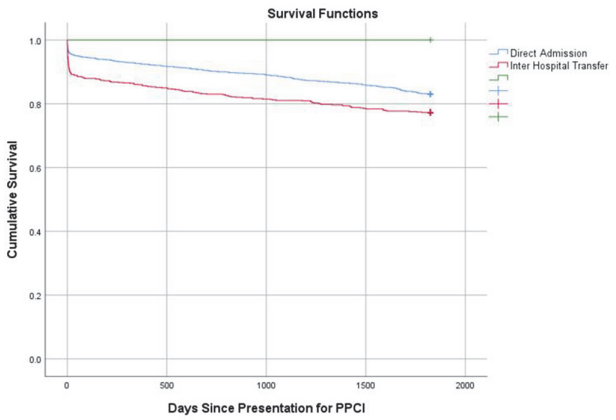

Abstract 45 Figure 1

significant difference in MACE during hospital admission between the two groups except for in-hospital mortality which was 5.26% higher in inter hospital transfer group. Kaplan Meier Survival analysis showed that the likelihood of survival at five years was 83% for direct admission vs 77.3% for inter hospital transfer with P value < 0.01. Additionally, one month mortality was significantly higher among inter hospital transfer group.

Conclusion In all the cohort of patients, in-hospital mortality, and five years mortality was significantly higher in inter hospital transfer group compared to direct admission group.

Conflict of Interest non

46 GLUCOSE TRANSPORTER GLUT4/NITRIC OXIDE SYNTHETASE PATHWAY MEDIATES THE CARDIOPROTECTIVE EFFECTS OF THE INTRAVENOUS IMMUNOGLOBULINS TO THE DIABETIC HEART

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Background Ischemic heart disease (IHD) in combination with Diabetes Meletus (DM) is a challenge of recent research and the role of intravenous immunoglobulin (IVIG) in the protection of the heart against ischemia/reperfusion (I/R) injury is not completely understood. The aim of this study is to investigate the role of IVIG in the protection of the diabetic heart against I/R injury.

Methods Hearts isolated from adult nondiabetic and diabetic Wistar rats (n=8) were used in this study. Hearts were treated with IVIG either two hours before sacrifice, before ischemia or at reperfusion. Hemodynamics data were acquired online using software designed specifically for that purpose. Infarct size was evaluated using 2,3,5-Triphenyltetrazolium chloride (TTC) staining. Expression levels of apoptosis markers (caspase 3 and 8), antioxidant enzymes, superoxide dismutase (SOD) and catalase (CAT) and Glucose transporters, GLUT1 and GLUT4 were evaluated by Western blotting. Pro-inflammatory and inflammatory cytokines were evaluated by enzyme linked immunosorbent assay (ELISA).

Results IVIG treatment abolished the effect of I/R injury in the diabetic hearts when infused at reperfusion in four weeks and six weeks diabetic hearts. Surprisingly IVIG infusion before ischemia protected the four weeks but not six weeks diabetic hearts. There was a significant (P<0.05) recovery in the hemodynamics and a reduced infarct size. The same treatments significantly (P<0.05) decreased apoptosis markers, pro-inflammatory cytokines and increased the anti-inflammatory cytokines levels. Interestingly, these treatments significantly (P<05) increased eNOS phosphorylation and the expression of GLUT4 but not GLUT1.

Conclusion Treatment of the diabetic heart with IVIG selectively protected the heart at reperfusion in four- and six-weeks diabetic hearts and only when infused before ischemia in four weeks diabetic hearts. This protection followed a pathway using eNOS/Glut4 axis. Acknowledgement: We acknowledge the Health Science Animal facility for providing the animals. This study was supported by grant #MY01/18 from Research Administration, Kuwait University.Key words: Ischemia Reperfusion, Intravenous immunoglobulin, Reactive oxygen species, Glucose transporter 4.

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Conflict of Interest No conflict of interest

47 DATA INDEPENDENT ACQUISITION MASS SPECTROMETRY IN SEVERE RHEUMATIC HEART DISEASE (RHD) IDENTIFIES A PROTEOMIC SIGNATURE SHOWING ONGOING INFLAMMATION AND EFFECTIVELY CLASSIFYING RHD CASES

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Rheumatic heart disease (RHD) remains a major source of morbidity and mortality in developing countries. A deeper insight into the pathogenetic mechanisms underlying RHD could provide opportunities for drug repurposing, guide recommendations for secondary penicillin prophylaxis, and/or inform development of near-patient diagnostics.We performed quantitative proteomics using Sequential Windowed Acquisition of All Theoretical Fragment Ion Mass Spectrometry (SWATH-MS) to screen protein expression in 215 African patients with severe RHD, and 230 controls. We applied a machine learning (ML) approach to feature selection among the 366 proteins quantifiable in at least 40% of samples, using the Boruta wrapper algorithm. The case-control differences and contribution to area under the Receiver Operating Curve for each of the 56 proteins identified by the Boruta algorithm were calculated by Logistic Regression adjusted for age, sex and BMI. Biological pathways and functions enriched for proteins were identified using ClueGo pathway analyses.Adiponectin, complement component C7 and fibulin-1, a component of heart valve matrix, were significantly higher in cases when compared with controls (Table 1). Ficolin-3, a protein with calcium-independent lectin activity that activates the complement pathway, was lower in cases than controls (Table 1). The top

six biomarkers, including adiponectin, complement component C7, quiescin sulfhydryl oxidase 1, insulin like growth factor binding protein acid labile subunit, pregnancy zone protein and phosphatidylinositol-glycan-specific phospholipase D, from the Boruta analyses (Fig. 1a) conferred an AUC of 0.90 indicating excellent discriminatory capacity between RHD cases and controls (Fig. 1b).ClueGo pathway analysis results of these biomarkers support the presence of an ongoing inflammatory response in RHD (Fig. 2), at a time when severe valve disease has developed, and distant from previous episodes of acute rheumatic fever. This biomarker signature could have potential utility in recognizing different degrees of ongoing inflammation in RHD patients, which may, in turn, be related to prognostic severity.

Conflict of Interest None

48 OUTCOMES FOLLOWING ACUTE MYOCARDIAL INJURY AND TYPE 2 MYOCARDIAL INFARCTION IN PATIENTS WITH AND WITHOUT CORONARY ARTERY DISEASE

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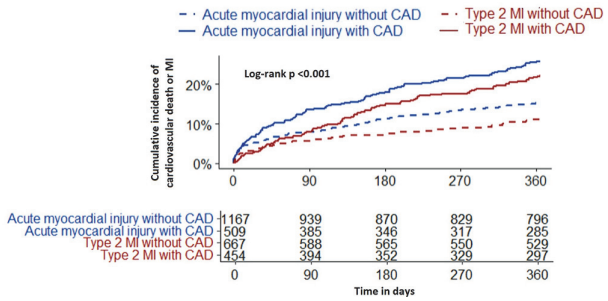
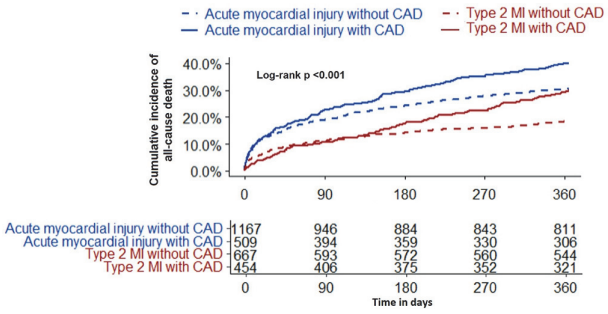
Background Acute myocardial injury and type 2 myocardial infarction typically occur in the setting of a concurrent illness. Differentiating acute myocardial injury from type 2 myocardial infarction is challenging as it relies on the assessment of myocardial ischaemia. Indeed, some have questioned whether this distinction is important, as patients with both conditions are at increased risk of future cardiovascular events. Whether this risk is similar and the role of identifying those with coronary artery disease is uncertain.

Methods We conducted a secondary analysis of a multi-centre randomised controlled trial of 48,282 consecutive patients with suspected acute coronary syndrome. Patients with an adjudicated diagnosis of acute myocardial injury and type 2 myocardial infarction were stratified according to whether they were known previously to have coronary artery disease defined as prior coronary revascularisation, myocardial infarction, or angina. Cardiovascular death or myocardial infarction adjusted for the competing risk of non-cardiovascular death and all-cause death at one year was compared.

Results In 9,115 patients with elevated cardiac troponin concentrations, 1,676 (18%) and 1,121 (12%) had acute myocardial injury and type 2 myocardial infarction, respectively. Patients with either condition known to have coronary artery disease were older (mean [standard deviation] age 78 [11] versus 73 [16] years) and more likely to be female (55% versus 45%) than those with no prior history. Coronary artery disease was previously identified in 40% (454/1,121) and 30% (509/1,167) of those with type 2 myocardial infarction and acute myocardial injury, respectively. Cardiovascular death or myocardial infarction at one year was more common in patients known to have coronary artery disease than those without for both acute myocardial injury (23% [115/509]) versus 14% [158/1,167]; P<0.001) and type 2 myocardial infarction (20% [91/454] versus 10% [69/667]; log-rank P<0.001) (Figure 1). Similarly all-cause death at one year was higher in patients with known coronary artery disease for both acute



Abstract 48 Figure 1 Cumulative incidence plot of cardiovascular death or MI (myocardial infraction) at one year in patients with acute myocardial injury and type 2 MI stratified by the presence of coronary disease (CAD)



Abstract 48 Figure 2 Cumulative incidence plot of all-cause death at one year in patients with acute myocardial injury and type 2 MI (myocardial infraction) stratified by the presence of coronary disease (CAD)

myocardial injury (31% [357/1,167] versus 18% [123/667]; P<0.001) and type 2 myocardial infarction (40% [115/509] versus 30% [135/454]; P<0.001) (Figure 2).

Conclusion Coronary artery disease is recognised in around one third of patients with acute myocardial injury and type 2 myocardial infarction and is associated with higher rates of cardiovascular events and all-cause death. Risk doubled in those with coronary artery disease and was similar whether the index diagnosis was myocardial injury or infarction, suggesting that coronary investigation and secondary prevention may have a role in both conditions

Conflict of Interest none

49 SHOCKWAVE INTRAVASCULAR LITHOTRIPSY (IVL) FOR CALCIFIED CORONARY LESIONS; A REAL WORLD MULTICENTRE EUROPEAN STUDY WITH LONG TERM FOLLOW UP

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10.1136/heartjnl-2022-BCS.49

Introduction The presence of calcium in atherosclerotic plaques is a challenge for successful angioplasty and is an