**Background:** Ischaemic heart disease remains the single most common cause of mortality in New Zealand. Significant disparities exist in terms of cardiovascular risk factors, events and access to interventions across various ethnic groups. We compared the characteristics and outcomes of coronary artery bypass grafting (CABG) between Pacific and European patients.

**Methods:** Isolated CABG cases at Auckland City Hospital during July 2010-June 2012 were retrospectively analysed, comparing patients of Pacific Island origin to Europeans.

**Results:** Of 818 CABG patients, 120 (14.7%) were Pacific and 444 (54.3%) were Europeans. Mean follow-up was 1.8+/−0.6 years. Pacific patients were younger (59.9 vs 67.9 years, p < 0.001), had higher NZ deprivation index (8.2 vs 5.5, p < 0.001), body mass index (31.6 vs 28.8, p < 0.001), prevalence of congestive heart failure (10.8% vs 2.3%, p < 0.001), diabetes (55.0% vs 24.1%, p < 0.001), dialysis (10.0% vs 9.9%, p < 0.001), reduced eGFR (66 vs 79 mL/min, p < 0.001) and additive EuroSCORE I (4.2 vs 4.8, p = 0.028) and longer cardiopulmonary bypass time (95 vs 89 minutes, p = 0.015). Despite these findings, Pacific patients were independently associated with greater 30-day mortality odds ratio 10.6 (95% confidence interval 1.02-111) p = 0.048 and a trend towards higher medium-term mortality hazards ratio 2.71 (95% confidence interval 0.86-8.49) p = 0.088. They also had higher raw rates of composite morbidity (22.5% vs 14.2%, p = 0.035) and returning to theatre (10.0% vs 3.6%, p = 0.008).

**Conclusion:** Pacific patients had a significantly higher prevalence of cardiovascular risk factors but even upon adjusting for these they were independently associated with higher mortality after CABG.

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**P75**

**Elevation of aspartate aminotransferase predicts mortality after coronary artery bypass grafting**

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**Background:** Cardiac troponins are the recommended biomarkers for diagnosing myocardial infarction (MI). Since troponins have become widely available, the roles of other less specific biomarkers have been seldom studied. Aspartate aminotransferase (AST) not only correlates with MI, but also with liver injury due to ischaemia or congestion. We assessed whether post-operative AST levels were associated with adverse outcomes after contemporary coronary artery bypass grafting (CABG).

**Methods:** Patients undergoing isolated CABG during July 2010-June 2012 at Auckland City Hospital were included if they had a post-operative AST measurement within 48 hours (n = 805), and their prognostic utility for adverse outcomes assessed by receiver-operative characteristics and multivariate analyses.

**Results:** Median post-operative AST levels was 37U/L (lower quartile 30, upper quartile 48). C-statistics and 95% confidence interval for AST at predicting 30-day mortality was 0.762 (0.609-0.915), with the optimal cutpoint of 70U/L giving 58.3% sensitivity and 90.7% specificity. AST also detected composite morbidity 0.573 (0.518-0.628), ventilation>24 hours 0.615 (0.555-0.676), and peri-operative myocardial infarction 0.594 (0.524-0.664) defined according to the universal definition, but not mortality during follow-up 0.580 (0.491-0.670). In multivariate analysis, AST per 10U/L increase remained an independent predictor of 30-day mortality odds ratio 1.14 (1.04-1.24), mortality during follow-up hazards ratio 1.08 (1.00-1.15) but not composite morbidity odds ratio 1.03 (0.962-1.10). Independent predictors of AST>90U/L included female sex, unstable angina and operation time.

**Conclusions:** AST levels within 48 hours after CABG independently predict mortality and morbidity. Although AST rise is not specific to myocardial necrosis, it remains a useful prognostic tool in cardiac surgery.

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**P76**

**Features and outcomes of eosinophilic myocarditis: A single-centre case series**

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**Background:** Eosinophilic myocarditis (EM) is a rare and potentially fatal entity characterised by inflammation with infiltrating eosinophils. Limited published data are available documenting presentation, management and prognosis. We report these data in a series of patients with EM treated at Auckland City Hospital.

**Methods:** All patients diagnosed with EM at our institution during January 2010-August 2013 were identified from the electronic laboratory and haematology databases, and clinical characteristics and outcomes reviewed.

**Results:** Seven patients, four male and median age 41 (range 1.5-62) years were identified. Median follow-up was 18 (range 0.2-33) months. The peripheral eosinophil count was abnormal in 5 and median peak levels were 2.1 (0.22-17.7) x10^9/L. Cardiac biopsy was diagnostic of EM in 5 of 6 cases performed, while eosinophilia of bone marrow was found in 3 of 4 performed. Inotropic support for cardiacogenic shock was required in 3 cases. Corticosteroids were commenced in 5 patients, and in 3 cases this was initially given intravenously. Corticosteroids achieved normalisation of eosinophil count in 4 patients, and in 2 of 3 patients this led to improvement in LV function to normal, while the remaining patient died in hospital. Two patients developed ventricular arrhythmia also leading to one in-hospital death, and one death at 2 years after initial diagnosis.
Conclusions: Our findings suggest endomyocardial biopsy has good diagnostic yield for EM, corticosteroid is an effective first-line treatment, and ventricular arrhythmia is an important cause of mortality. Multi-centre collaboration to obtain a larger data set for this rare condition is warranted.

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P77
Influence of cardioplegia techniques on outcomes after aortic valve replacement
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Background: Dual anterograde and retrograde cardioplegia delivery, warm induction and hotshot delivery had previously been shown to confer myocardial protection, but have not been studied for over a decade. High-sensitivity troponins (hs-Tn) are now the recommended biomarkers for assessing myocardial necrosis. We compared the degree of hs-TnT release and outcomes of aortic valve replacement (AVR) by these cardioplegia techniques.

Methods: All patients undergoing isolated AVR during July 2010-December 2012 were studied, categorised by cardioplegia techniques for analyses

Results: Amongst 219 patients followed-up for 1.8+/-0.8 days, 14.7% (32), 63.3% (138) and 22.0% (48) had anterograde, retrograde and dual cardioplegia delivery route respectively; 88.1% (193) and 11.9% (26) had cool and warm induction, and 77.6% (171) had hotshot delivered. Dual anterograde and retrograde cardioplegia was independently associated with Maori or Pacific ethnicity (P = 0.006), while hotshot delivery was independently associated with cardiopulmonary bypass time (P = 0.001). None of the cardioplegia techniques was associated with greater hs-TnT release post-operatively. In multivariate analyses of outcomes, hotshot delivery was independently associated lower operative mortality odds ratio 0.070, 95% confidence interval (95%CI) 0.006-0.781, P = 0.031, greater survival during follow-up hazards ratio 0.214, 95%CI 0.064-0.716, P = 0.012, and a trend towards lower rate of perioperative myocardial infarction (P = 0.096). Warm induction was associated with a trend towards higher rates of prolonged ventilation>24 hours (P = 0.091).

Conclusions: Hotshot delivery was independently associated with reduced operative, follow-up mortality and a trend towards lower rates of perioperative myocardial infarction. None of the cardioplegia techniques were associated with greater hs-TnT release or composite morbidity.

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P78
Relationships between anticoagulation regimen, risk score and adverse outcomes in dialysis patients with atrial fibrillation
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Background: Atrial fibrillation (AF) is the commonest cardiac arrhythmia including in end-stage renal failure patients, and there is increasing evidence that anticoagulation leads to more harm than benefit in these patients on dialysis. We reviewed the characteristics, management and outcomes of end-stage renal failure patients in dialysis with AF with a focus on warfarin anticoagulation and risk scores.

Methods: All patients started on dialysis at Middlemore Hospital between January 2000 and December 2008 who had AF were studied. Data regarding demographics, co-morbidities, renal disease, AF and embolic, bleeding and/or mortality events were recorded.

Results: There were 141 out of 774 (18.2%) dialysis patients with AF followed-up for 3.4+/-.25years, 75 (53.2%) with pre-existing AF, and warfarin was used for anticoagulation in 41.8% (59). Incidence of ischaemic stroke and intracranial bleed were 3.1/100 person years and 0.82/100 per years respectively, and all embolic events and bleeding events were 4.1/100 person years and 9.6/100 person years respectively.

Conclusions: Anticoagulation with warfarin did not reduce embolic risk in dialysis patients, but also increased the risk of intracranial or other bleeds. Convention risk scores remain good discriminators of embolic events in dialysis patients.

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P79
Seven tear study of surgery for infective endocarditis: The contemporary Auckland City Hospital experience
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Background: Infective endocarditis remains a heterogeneous disease with high mortality, and surgery is required in approximately half for resultant heart failure, uncontrolled infection or embolism prevention. Several recent studies advocate operating early to have superior outcomes. We reviewed the characteristics, timing and outcomes of cardiac