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Coronary Artery Disease

O11

Only 28% of New Zealanders Reach Target LDL-Cholesterol Levels <1.6 mmol/L Using Currently Available Therapies After Acute Myocardial Infarction (AMI)

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Background: Target LDL-Cholesterol (LDL-C) levels after acute myocardial infarction (AMI) have fallen from 2.5 mmol/L to 2.0 mmol/L to 1.6 mmol/L in recent years.

Method: Retrospective audits of hospital records and laboratory Results in consecutive patients admitted with AMI between 1 October and 31 December in 2010 and 2019. Both groups were followed for 15 months after discharge.

Results: In 2010 and 2019 respectively, 96% and 95% of survivors were discharged on a statin, and 68% and 63% had plasma LDL-C levels measured in the first 15 months after discharge. Of those measured, only 38% and 55% of the 2010 and 2019 cohorts had LDL-C levels <2.0 mmol/L. Only 28% of the 2019 cohort reached <1.6 mmol/L. 69% of the 2010 and 90% of the 2019 cohort were discharged on atorvastatin. In 2019, lipid therapies were intensified in 2.5% in the year after discharge. According to pharmacy records, a statin was still being dispensed to 90% of all patients one year after discharge, including 89% of those aged <65 years, 91% of those aged 65 to 74, and 82% of those aged >/= 75 years.

Conclusion: There has been little change in the proportion of patients achieving LDL-C levels <2.0 mmol/L during the last decade. Most fail to reach current target levels. New therapies and prescribing initiatives are urgently required.

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O12

The Impact of a National COVID-19 Lockdown on Acute Coronary Syndrome Hospitalisations in New Zealand: an ANZACS-QI study

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Background: Countries with a high incidence of coronavirus-2019 (COVID-19) reported reduced hospitalisations for acute coronary syndromes (ACS) during the pandemic. This study describes the impact of a nationwide lockdown on ACS hospitalisations in New Zealand (NZ), a country with a low incidence of COVID-19.

Method: All patients admitted to a NZ hospital with ACS who underwent coronary angiography in the All NZ ACS Quality Improvement (ANZACS-QI) registry during the lockdown (23 March 2020–26 April 2020) were compared with equivalent weeks in 2015-2019. Ambulance attendances and regional community troponin testing were compared for lockdown and non-lockdown (1 July 2019–16 February 2020) periods.

Results: Hospitalisation for ACS was lower during the 5-week lockdown (105 vs 146 per-week, rate ratio 0.72 [95% CI, 0.61–0.83], p=0.003). This was explained by fewer admissions for non-ST-segment elevation ACS (NSTE-ACS; p=0.002) but not ST-segment elevation myocardial infarction (STEMI; p=0.31). Patient characteristics and in-hospital mortality

were similar. For STEMI, door-to-balloon times were similar (70 vs 72 min, p=0.52). For NSTE-ACS, there was an increase in percutaneous revascularisation (59% vs 49%, p<0.001) and reduction in surgical revascularisation (9% vs 15%, p=0.005). There were fewer ambulance attendances for cardiac arrests (98 vs 110 per-week, p=0.04) but no difference for suspected ACS (408 vs 420 per-week, p=0.44). Community troponin testing was lower throughout the lockdown (182 vs 394 per-week, p<0.001).

Conclusion: Despite the low incidence of COVID-19, there was a nationwide decrease in ACS hospitalisations during the lockdown. These findings have important implications for future pandemic planning.

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O13

Outcomes Among Patients With First-Time Acute Coronary Syndromes in New Zealand: The Multi-Ethnic New Zealand Study of Acute Coronary Syndromes (MENZACS)

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Background: Each year approximately 5,000 New Zealanders are admitted to hospital with a first-time acute coronary syndrome (ACS). The Multi-Ethnic New Zealand Study of Acute Coronary Syndromes (MENZACS) study aims to examine the relationship of clinical, genomic and cardiometabolic markers in relation to presentation and outcomes post-ACS.

Method: MENZACS is a prospective, longitudinal registry-based study embedded within the All New Zealand Acute Coronary Syndrome Quality Improvement (ANZACS-QI) programme in 6 hospitals. Patients with first-time ACS were enrolled and additional study-specific data collected. Blood samples were stored for genetic/biomarker assays. We report here the first outcome data for MENZACS.

Results: Between 2015-2019, 2,015 patients were enrolled, mean age 61 yrs, 21% female, 13% Māori, 5% Pacific, and 74% European. Over a median of 2.4 years of follow-up, 422 (21%) patients either died or were readmitted to hospital for cardiovascular cause. Event rates were similar for those with STEMI and NSTEMI (20.9%, 21.0% respectively). In a Cox proportional hazards model including age, sex, ethnicity and N-terminal proB-type natriuretic peptide (NTproBNP), the independent predictors of death/cardiovascular readmission were female sex (hazard ratio [HR]=1.30;95%CI: 1.03,1.63), age per 10yrs (HR=1.18, 95%CI:1.09,1.28), Māori ethnicity (HR=1.46;95%CI:1.10,1.93) and increasing NTproBNP (HR=1.12;95%CI: 1.04,1.20).

Conclusion: MENZACS represents patients with first-time ACS who received optimal contemporary management. One in five patients died or were readmitted to hospital for a cardiovascular cause within 2.4yrs of their index ACS event. Further understanding of the predictors of recurrent events will be enhanced by the cardiometabolic and genomic markers being measured in the MENZACS cohort.

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O14

Cardiovascular Health Risk Disparities in a Rural New Zealand General Practice Community

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Background: Cardiovascular disease is a leading cause of death in New Zealand. Important disparities currently exist in cardiovascular health between Māori and non-Māori. The PREDICT cardiovascular risk assessment (CVR) tool has been well validated in New Zealand populations. We reviewed the PREDICT CVR data from patients in the two Te Kuiti general practice (GP) populations (with approximately overall 45:55, Māori:non-Māori population) to understand if there were differences in the proportion of patients at high cardiovascular risk, assessing groups by ethnicity, gender and age.

Method: In the two GP practices, data from patients aged 35-74 years with 5-year cardiovascular disease (CVD) risk calculated using the PREDICT CVD risk assessment tool as ≥10% score was collected. Results were compared by gender (male/female) and ethnicity (Māori and non-Māori) and age in 10-year age groups: 35-44, 45-54, 55-64 and 65-74 years.

Results: In this population, the overall five-year CVD risk was ≥10% in 225/527 (43%) Māori male, 269/813 (33%) non-Māori male, 125/525 (24%) Māori female and 55/599 (9%) non-Māori female patients aged 35-74. In Table 1, further