Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

reported total mortality or CV outcomes: (CV mortality, myocardial infarction (MI), New heart failure (HF), HF hospitalisation or stroke). Random effects analysis with hazard ratio's (HR) as effect sizes and respective 95% confidence intervals (95%CI) was performed. Meta-regression to assess effects of independent variables (CV risk factors, surgery type, study design) on effect size in unadjusted reported values was performed.

Results: 30 studies met inclusion criteria (total population 417,791, median follow-up 4.9 years, 32% males, mean BMI 43.8 ± 3). In 22 studies reporting mortality the pooled HR was 0.54 (95%CI 0.46-0.63, $p<0.001$). CV mortality (6 studies, HR 0.53, 95%CI 0.30-0.92, $p=0.02$); MI (11 studies, HR 0.54, 95%CI 0.42-0.70, $p<0.001$); New HF (6 studies, HR 0.55, 95% CI 0.42-0.71, $p<0.001$); HF hospitalisation (4 studies, HR 0.41, 95%CI 0.35-0.49, $p<0.001$) and Stroke (HR 0.80, 95%CI 0.69-0.93, $p=0005$). Meta-regression demonstrated no significant variables associated with effect size, but there was a beneficial trend for secondary prevention.

Conclusion: Metabolic surgery significantly improves CV outcomes. Specific factors that influence these outcomes remain uncertain with a trend toward significance for secondary preventive cohorts. Further study in specified patient groups is needed.

https://doi.org/10.1016/j.hlc.2022.06.491

504

Characteristics, Management, and Outcomes of Patients With Type 1 Diabetes Admitted With Acute Coronary Syndrome: Results From an Australian Centre

M. Nejatian [1,*], N. Lan [2,3], B. Yeap [3,4], G. Dwivedi [2,3,5], G. Fegan [4,6], A. Ihdayhid [2,3,5]

[1] South Metropolitan Health Service, Perth, WA Australia
[2] Department of Cardiology, Fiona Stanley Hospital, Perth, WA, Australia
[3] Medical School, The University of Western Australia, Perth, WA, Australia
[4] Department of Endocrinology and Diabetes, Fiona Stanley Hospital, Perth, WA, Australia
[5] Harry Perkins Institute of Medical Research, Perth, WA, Australia
[6] Medical School, Curtin University, Perth, WA, Australia

Background: Coronary artery disease (CAD) and acute coronary syndromes (ACS) remain a leading cause of death in people with type 1 diabetes mellitus (T1DM). We explored clinical characteristics and outcomes of patients with T1DM and ACS.

Methods: We conducted a retrospective analysis of patients with T1DM admitted with ACS to an Australian tertiary hospital between 2015-21 using medical records. Risk factor targets were defined according to European Society of Cardiology Guidelines. Major adverse cardiovascular events (MACE) were defined as ACS, unplanned revascularisation, heart failure, stroke, or mortality.

Results: 61 patients were included [age 58.5±12.8 years, 39.3% female, diabetes duration 30 (IQR 21-44) years, HbA1c 9.1±1.6%]. Dyslipidaemia (85.2%), hypertension (75.4%), smoking (28.3%), prior CAD (44.3%), and microvascular complications (62.3%) were common. HbA1c, lipid and blood pressure targets were attained in 11.9%, 35.9% and 46.7%, respectively. Those without prior CAD presented more often with ST-elevation myocardial infarction (64.7% versus 39.3%, $p<0.001$) and had higher rate of revascularisation (75.8% versus 40.7%, $p=0.008$). Peak inpatient blood glucose correlated directly with peak troponin ($p=0.010$) and inversely with left ventricular ejection fraction ($p=0.025$). Six-months post-discharge, 19 (31.1%) experienced MACE, with diabetes duration ($p=0.009$), chronic kidney disease ($p=0.048$), retinopathy ($p=0.032$), peripheral neuropathy ($p<0.001$) and in-hospital hypoglycaemia ($p=0.017$) being univariate predictors. Peripheral neuropathy ($p=0.039$) and in-hospital hypoglycaemia ($p=0.012$) remained predictors on multivariate analysis.

Conclusions: Patients with T1DM and ACS have high prevalence of cardiovascular risk factors. Dysglycaemia and microvascular complications are associated with poorer outcomes. New strategies are needed to improve CAD prevention in T1DM.

https://doi.org/10.1016/j.hlc.2022.06.492

505

COVID-19 Impact on Australian Cardiac Rehabilitation Programs: Results From a National Survey

S. Cartledge [1,2,*], E. Thomas [3], B. Abell [4], B. Murphy [5], J. Cameron [6], R. Gallagher [2], C. Astley [7]

[1] School of Public Health and Preventive Medicine, Monash University, Melbourne, Vic, Australia
[2] Susan Wakil School of Nursing and Midwifery, University of Sydney, Sydney, NSW, Australia
[3] Centre for Health Services Research, The University of Queensland, Brisbane, Qld, Austra
[4] School of Public Health and Social Work, Queensland University of Technology, Kelvin Grove, Qld, Australia
[5] Australian Centre for Heart Health, Melbourne, Vic, Australia
[6] School of Clinical Sciences, Monash University, Melbourne, Vic, Australia
[7] College of Nursing and Health Sciences, Flinders University, Bedford Park, SA, Australia

Background: Australian cardiac rehabilitation (CR) programs have undergone significant changes in availability, staffing and delivery methods during the COVID-19 pandemic. We aimed to quantify the impact of these COVID19-induced changes on CR programs.

Methods: We conducted an anonymous online cross-sectional survey of CR programs between April-June 2021. The questionnaire comprised four sections: (i) CR program characteristics; (ii) COVID-19 impact; (iii) barriers and enablers of telehealth; (iv) patient concerns and staff wellbeing. Respondents were asked to consider "pre-COVID19 (2019); "during-COVID" (from March 2020); and current, at time of survey completion (from May 2021).

Results: Of the 115 surveys, 91% were suitable for analysis and represented every state and territory. Many programs (40%) had periods of closure and 70% reduced elements offered in programs. Every telehealth modality including telephone, video-conferencing, text messaging and web-based modalities increased significantly during the pandemic. The most preferred delivery mode was telephone (85% of services). Video and telephone modes were perceived as safe and effective for delivering CR by approximately half of respondents (53% and 47% respectively). Common barriers to telehealth included the inability to conduct physical examinations or measure exercise capacity, and a loss of personal engagement with patients. The greatest enablers were the ability to increase reach and reduce patient access barriers, in addition to organisational support.

Conclusions: Australian CR programs underwent significant change during the COVID19 pandemic, and increased telehealth delivery. However, to permanently embed telehealth into CR will require additional support and should be evaluated to monitor long term progress.

506

Demographics and Cardiovascular Risk Profile of Ischaemic Stroke in Western Sydney

V. Danaila [1,*], P. Vaheisvaran [1], A. Ferkh [2],
P. Emerson [1], L. Stefani [1], A. Duggins [1],
A. Evans [1], J. Chong [1], A. Denniss [1], E. Kizana [2],
L. Thomas [2]

[1] Westmead Hospital, Westmead, NSW, Australia
[2] University of Sydney, Westmead, NSW, Australia

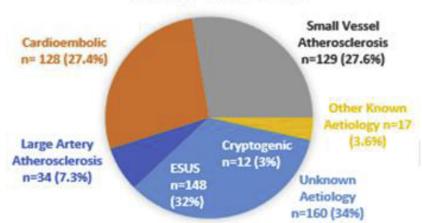**Background:** Ischaemic stroke remains a major cause of morbidity.

Aims: To evaluate the clinical and demographic profile of patients presenting with ischaemic strokes in Western Sydney.

Methods: A prospective analysis of ischaemic stroke patients presenting to Westmead Hospital (2016 - 2021) was performed. Clinical and demographic data were collected, and strokes were classified by TOAST (Trial of Org 10172 in Acute Stroke Treatment) criteria. Additional sub-group analyses were performed based on gender, age and stroke sub-types.

Results: 468 consecutive ischaemic stroke patients (mean age 70.0 years) were identified. Ischaemic stroke was more prevalent in males (62.9%). By TOAST criteria 34 (6.8%) were large-artery atherosclerosis, 128 (25.5%) cardio-embolic, 129 (25.7%) small-vessel disease, 17 (3.4%) other aetiology and 160 (31.9%) undetermined aetiology (Figure). A significant proportion of patients had cardiovascular risk factors including hypertension (67.9%), hypercholesterolaemia (53.7%), diabetes (32.1%) and ischaemic heart disease (21.4%). Men $\geq$55 years were more likely to have a prior history of ischaemic heart disease (29.2% vs 15.8%, p=0.002) and diabetes (38.6% vs 28.8%, p=0.045), while females $\geq$55yrs were more likely to suffer from atrial fibrillation (25.7% vs 14%, p=0.003). There was a higher prevalence of embolic strokes of undetermined source (ESUS) in younger patients $\leq$55yrs (41.5% vs 28.5%, p=0.015) and consequently they were more likely to be investigated with a trans-oesophageal echocardiogram (42% vs 10%, p=0.001).

Conclusion: Ischaemic stroke is a major cause of morbidity in Western Sydney and may potentially be preventable, as highlighted by the substantial presence of modifiable cardiovascular risk factors.

TOAST CATEGORY