min, peak Ve (expressed as % of baseline at rest) 489 +/- 297%, resting RR 17.0 +/- 3.8 breaths per minute, peak RR 35.5 +/- 6.9 breaths per minute, resting heart rate (HR) 78.4 +/- 15.5 bpm, peak HR 156.7 +/- 19.7 bpm, stress test positivity: 1 out of 25 patients. Presence of CVD (defined as current or previous HTN, angina, CVA, A-fib, or sleep apnea) was found to be a significant predictor of both Ve (Figure 1) and RR response over time to exercise (p=0.004, 0.002, respectively, Table 1), with patients having comorbid CVD demonstrating a mean 124% (95%CI 32.2-280%) higher Ve slope and 71.0% (95%CI 23.7-139%) higher RR slope versus patients without these comorbidities. None of age, sex, body mass index (BMI), stress test duration, or delta HR were significant predictors of Ve slope; BMI and stress test duration were found to be significantly associated with RR slope (p=0.001 and 0.007, respectively).

CONCLUSION: Non-invasive chest-mounted electronic respiratory monitoring may provide a useful supplement to current routinely gathered data during treadmill stress testing and may identify morbidity not seen with standard measures.

Figure 1. Per-patient slope of Ve during treadmill stress testing

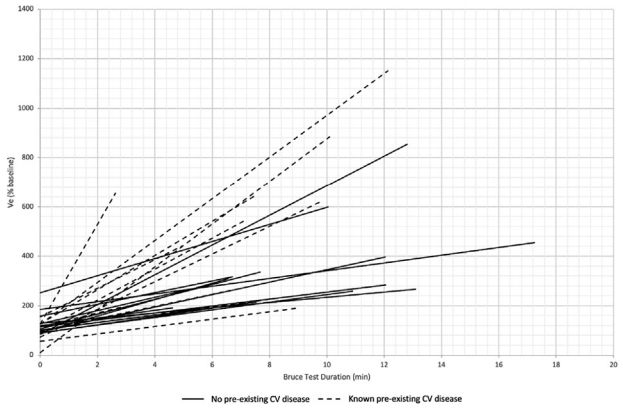

Table 1. Relationship between patient characteristics and respiratory parameters

Patient characteristics	Slope of Ve (%) vs time		Slope of RR (bpm) vs time	
	Beta coefficient	% increase in mean slope (95% CI)	Beta coefficient	% increase in mean slope (95% CI)
Age	-0.022	-	0.087	-
Sex	-0.336	-	-0.086	-
BMI	0.378	-	**0.603****	**15.6 (6.43 – 25.7)****††
Stress test duration	-0.258	-	**-0.526***	**-6.95 (-11.5 – -2.18)***‡
Presence of CVD	**0.550****	**124 (32.2 – 280)****†	**0.579****	**71.9 (23.7 – 139)****†
Delta HR	0.105	-	-0.233	-

*statistically significant, p<0.05
**statistically significant, p<0.005
†represents % increase in mean slope for presence versus absence of patient characteristic
††represents % increase in mean slope for every 10% increase in patient characteristic
‡represents % increase in mean slope for every 1 minute increase in patient characteristic

Canadian Cardiovascular Society (CCS) Abstracts – CAD ACS-AMI

P025
A COMPARATIVE ANALYSIS OF ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION BETWEEN CANADA AND THE UNITED STATES FROM THE NORTH AMERICAN COVID-19 STEMI REGISTRY

J Shavadia, L Stanberry, J Singh, K Thao, N Ghasemzadeh, N Mercado, K Nayak, M Alraies, R Bagur, j Saw, A Bagai, K Bainey, M Madan, S Amlani, L Hon, R Garberich, S Garcia, T Henry, P Dehghani

Saskatoon, Saskatchewan

BACKGROUND: Important healthcare differences exist between the US and Canada. The goal of this investigation is to compare clinical characteristics, treatment strategies and clinical outcomes of STEMI patients with COVID-19 infection treated in the US versus Canada.

METHODS AND RESULTS: The North American COVID-19 Myocardial Infarction (NACMI) registry is a prospective, investigator-initiated study enrolling STEMI patients with documented COVID infection in the US and Canada. The primary end-point is in-hospital mortality. The secondary end-points include stroke, reinfarction and a composite of death, stroke or reinfarction. Of the 767 STEMI-COVID patients, 67 (9%) were from Canada and 669 (91%) from the US. Patients enrolled in Canada were more likely to present with chest pain (79% vs. 54%, p< 0.001), otherwise patients across both countries had comparable presenting demographics (Table 1). The proportion of patients not undergoing coronary angiography was significantly lower in Canada compared with the US (9% vs. 19%, p=0.039); of those who underwent angiography, no significant differences in reperfusion modalities were noted. Compared with the US, patients in Canada had a significantly lower unadjusted risk for in-hospital mortality (15% vs. 29%, p=0.016) and the risk for the composite of death, stroke or re-infarction (15% vs. 31%, p=0.006). Vaccination status was available in Canada 26 / 67 patients (unvaccinated 13, vaccinated 13) and US 328/ 669 patients (unvaccinated 282, vaccinated 46); a strong association between vaccination and adverse clinical composite is noted in both countries (Canada: 3/13, 23% (unvaccinated) vs. 0/13, 0% (vaccinated), p=0.22; and, US: 75/282, 27% (unvaccinated) vs. 6/46, 13% (vaccinated), p=0.048).

CONCLUSION: Among patients with STEMI and COVID-19 infection those treated in Canada had higher proportions undergoing angiography and a lower risk of death, stroke or reinfarction. Regardless of geography, vaccination was associated with significantly lower risk of mortality in both countries.

	Canada	United States	p
Select presenting demographics	**(N=67)**	**(N=700)**	
Enrolled in year 2021	78	70	0.183
Female	21	29	0.139
BMI	28 (25, 32)	28 (24, 33)	0.914
Diabetes mellitus	43	40	0.617
History of coronary artery disease	18	25	0.223
History of heart failure	6	14	0.064
Cardiogenic shock pre-PCI	7.5	13	0.191
Cardiac arrest pre-PCI	15	9.3	0.138
In-hospital MI	9	6.3	0.432
Reperfusion strategy	**(N=61)**	**(N=566)**	**0.3**
Medical therapy	13	21	
Primary PCI	75	69	0.039
Facilitated/rescue PCI	3.2	4.2	
CABG	0	1.8	
In-hospital outcomes	**(N=67)**	**(N=700)**	
Mortality	15	29	0.016
Stroke	0	1.6	0.612
Re-infarction	0	15	0.633
Composite of death, stroke and re-infarction	15	31	0.006

Saskatchewan Health Research Foundation

CANCARE Cardiac Critical Care Research Award Winner

P026
ARE BEST PRACTICE GUIDELINES INFORMING WITHDRAWAL OF LIFE SUSTAINING THERAPY FOLLOWED AFTER CARDIAC ARREST?

M Elfassy, M Gewarges, A Bagga, M Basuita, S Bennett, I Janusonis, B McLean, S Nadarajah, C Osei-Yeboah, J Rosh, J Sklar, D Tanaka, D Teitelbaum, D Scales, A Luk, P Dorian

Toronto, Ontario

BACKGROUND: Out-of-Hospital Cardiac Arrest (OHCA) is a leading cause of mortality worldwide. Amongst patients who achieve return of spontaneous circulation and are admitted to hospital, most will die from the effects of brain injury. Withdrawal of Life Sustaining Treatments (WLST) is the most common means of death, and current guidelines recommend WLST only after formal neuroprognostication, and after 72 hours. We aimed to determine the incidence and characteristics associated with WLST compared with no WLST in comatose patients following OHCA.

METHODS AND RESULTS: Patients admitted to hospital after non-traumatic OHCA between 2012-2019 who subsequently died were studied in a multicentred, retrospective cohort study across three Toronto academic hospitals. Data including baseline demographics, pre-existing medical comorbidities, in-hospital investigations and interventions, medical complications in hospital, goals of care discussions and mode of death were collected. WLST was defined as having documentation that medical interventions were withheld or discontinued (excluding formal declaration of brain death). Of the 130 included patients, 81 received WLST and 49 did not. Demographic and clinical characteristics are outlined in Table 1. Both groups were similar in terms of their pre-existing cardiac and non-cardiac comorbidities, although patients not receiving WLST had greater evidence of multiorgan failure and less often documented goals of care discussions. In those that received WLST, 82% of cases were due to concerns for poor neurologic prognosis with the remainder due to non-neurologic related prognosis or previously expressed wishes regarding interventions. Nearly half of WLST (45%) were < 72 hours from presentation. In patients not receiving WLST, 37% had formal declaration of brain death and the remainder died of medical complications.

CONCLUSION: In this exploratory analysis, many comatose patients receive WLST due to concerns of poor neurologic prognosis without formal declaration of brain death and many of these cases occur < 72 hours. Physicians may over-estimate poor outcomes in this population.

Table 1: Baseline Demographics and Clinical Characteristics in Comatose Patients who Die Following OHCA

Characteristic	WLST (N=81)	No WLST (N=49)
Age	71 (59-81)	63 (54-73)
Male sex (n, %)	65 (80)	32 (65)
EMS Response Time (min)	5 (3)	6 (4)
Witnessed (n, %)		
Unwitnessed	26 (32)	14 (29)
Witnessed	51 (63)	19 (39)
Unknown	4 (5)	16 (33)
Initial Rhythm (n, %)		
VT/VF	13 (16)	8 (16)
PEA/asystole*	60 (74)	23 (47)
Unknown	7 (9)	18 (37)
Time to ROSC (min)	23 (17-30)	35 (24-52)
Initial laboratory values		
Cr	116 (92-150)	107 (91-145)
Lactate*	9.4 (6.2-12.7)	12.1 (10.3-15.2)
pH	6.97 (6.85-7.17)	6.86 (6.80-7.04)
STEMI on presenting ECG (n, %)	16 (20)	2 (4)
Presenting LVEF	45 (32-55)	50 (39-55)
TTM (n,%)*	50 (62)	19 (39)
Coronary Angiogram (n,%)	68 (84)	26 (53)
Culprit Lesion on Angiogram (n,%)	11 (14)	6 (12)
Goals of Care Discussion Documented (n, %)*	67 (83)	6 (12)
Hospital Length of Stay (days)	3 (1-11)	2 (1-6)

Abbreviations: WLST: Withdrawal of Life Supporting Treatment; EMS: Emergency Medical Services; ROSC: Return of Spontaneous Circulation; VT: Ventricular Tachycardia; VF: Ventricular Fibrillation; PEA: Pulseless Electrical Activity; Cr: Creatinine; STEMI: ST Elevation Myocardial Infarction; TTM: Targeted Temperature Management; LVEF: Left Ventricular Ejection Fraction, *p<0.05, all characteristics are represented by median (IQR).

P027
COMPARING DUAL ANTIPLATELET THERAPY STRATEGIES POST-ACUTE CORONARY SYNDROME: NETWORK META-ANALYSIS

C Hong, E Wang, R Turgeon, G Wong

Vancouver, British Columbia

BACKGROUND: Various approaches to dual antiplatelet therapy (DAPT) management exist to balance thrombotic and bleeding risks following acute coronary syndrome (ACS). The aim of this study was to compare and rank different DAPT management strategies in patients with ACS with or without percutaneous coronary intervention (PCI).

METHODS AND RESULTS: We conducted a systematic review with network meta-analysis of randomized controlled trials (RCTs) comparing DAPT strategies in patients with ACS. We searched MEDLINE, Embase, and CENTRAL (2007-July 2021) for RCTs that enrolled patients with ACS (or PCI with outcomes reported separately for ACS subgroup) comparing ≥2 DAPT strategies, including comparisons between P2Y12 inhibitors, empiric P2Y12 inhibitor de-escalation (switching from prasugrel- or ticagrelor-based DAPT after 1 month to clopidogrel-based DAPT to complete 12 months DAPT duration), pharmacogenomic- or platelet-function testing-guided P2Y12 inhibitor selection, or short-duration DAPT (1-3 months of DAPT followed by P2Y12 inhibitor monotherapy) with intended follow-up ≥12 months. The primary