who tested positive for COVID at least 15 days before the exam and individuals who were not infected.

METHODOLOGY Observational and cross-sectional study, carried out from May to July 2021 in students aged over 20 and under 30 years, in accordance with the current hypertension guideline of the Brazilian Society of Cardiology. Of 59 participants, 4 were excluded for absence of answers about COVID infection and 10 for age >30 years. After selection, participants were divided into 2 groups: prior COVID (CoP) and non-infected (NI). We used an anonymous questionnaire and the values provided by the Arteris device by means of the oscillometric method: PWV, AIX@75, heart rate(HR), central systolic pressure (CSBP) and central diastolic pressure (CDBP). The mean, maximum and minimum values were calculated using Excel software. Evaluation of sample normality (Shapiro-Wilk) and unpaired Student's T test (with Welch correction) were performed for parametric samples and Mann Whitney for non-parametric samples, with confidence level of 95% through GraphPad Prism Software version 9.2.

RESULTS In the CoP group, the means were: PWV 4.65m/s (5.4±4.2); AIX@75 23.22% (40.7±9.3); HR 89.5bpm (119±71); CSBP 97.72mmHg (118±80); CDBP 76.68mmHg (98±61). While in the NI group, the means were: PWV 4.58mmHg (5.2±3.1); AIX@75 21.85% (41.7±5.3); HR 86.3bpm (128±60); CSBP 97.6mmHg (113±80) and CDBP 73.8mmHg (54±91). There was no statistical difference between PWV (p=0.95) and AIX@75 (p=0.63) values between CoP and NI group.

CONCLUSION Although higher values were observed for the CoP group in several hemodynamic and arterial stiffness parameters, no statistical difference was obtained between this group and NI group. However, it is valid to emphasize the importance of further studies in the area to be able to affirm or rule out the influence of the SARS-COV-2 virus on vascular integrity.

CRT-200.06

Impact of the COVID-19 Pandemic on Cardiology Services and Catheterization Volumes in the Second Year: A Comparison of 2020 and 2021 at a South Asian Cardiac Centre

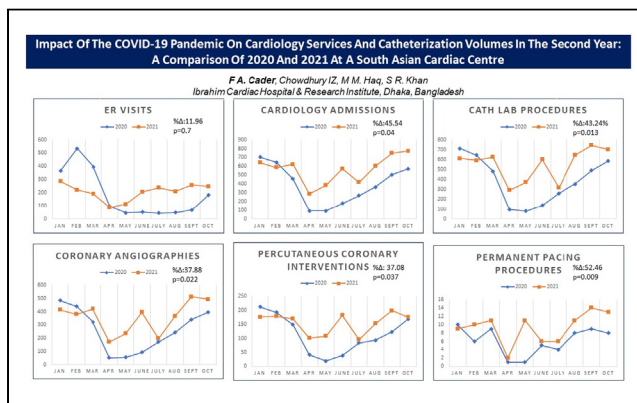F. Aaysha Cader,[1] Ishmum Z. Chowdhury,[2] M. Maksumul Haq,[1] Saidur Rahman Khan[1]
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BACKGROUND There is little data from South Asia on the impact of the COVID-19 pandemic on cardiology services and cath lab volumes during the 2nd year of the pandemic, particularly considering the delta variant, which had profound regional effects during the second quarter (Q2) of 2021. We aimed to assess this impact at a tertiary cardiac centre in Dhaka, Bangladesh.

METHODS Data on patient visits, admissions, procedures and catheterization volumes were collected for January to October 2020 and 2021 via electronic health records. Data were compared for each corresponding month in 2021 and 2020. The difference was expressed as a percentage (%Δ). Data for each quarter (Q1 to Q3) were compared using paired t-test. P < 0.05 was considered significant.

RESULTS Overall, there was a significant increase in cardiology admissions (%Δ 45.54%; p=0.04), outpatient procedures (%Δ 47.39%; p=0.002), cath lab procedures (%Δ 43.24; p= 0.013) and permanent pacing (%Δ 52.46%; p=0.009) in 2021 as compared with 2020. ER visits increased no-significantly by 11.96% in 2021 (p=0.7). Compared to Q1, admissions and cath lab volumes declined in Q2 (coinciding with the delta variant wave), but picked up in Q3, with continuing rise. Despite this Q2 decline in 2021, admissions (p=0.036), outpatient visits (p=0.024) and outpatient procedures (p=0.046) were significantly elevated compared to Q2 in 2020. Further, cath lab volumes were also elevated numerically (p=0.055) in Q2 of 2021, with increasing volumes in Q3.

CONCLUSION Cardiology services and cath lab volumes had reached almost pre-pandemic levels in Q1 of 2021. Although they declined in Q2, coinciding with the delta wave, they were still higher than corresponding months in the preceding year, indicative of an encouraging adaptation of the healthcare systems to care delivery during the prevailing pandemic.

Impact Of The COVID-19 Pandemic On Cardiology Services And Catheterization Volumes In The Second Year: A Comparison Of 2020 And 2021 At A South Asian Cardiac Centre
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CRT-200.07

Six-Month Outcomes for COVID-19-Negative Patients With Acute Myocardial Infarction Before Versus During the COVID-19 Pandemic

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BACKGROUND The Coronavirus disease 2019 (COVID-19) pandemic has changed the way patients seek medical attention and how medical services are provided. We sought to compare characteristics, clinical course, and outcomes of patients presenting with acute myocardial infarction (AMI) during the pandemic compared to before it.

METHODS This is a multicenter, retrospective cohort study of consecutive COVID-19 negative patients with AMI in Lithuania from March 11, 2020 to April 20, 2020 compared to patients admitted with the same diagnosis during the same period in 2019. All patients underwent angiography. Six-month follow-up was obtained for all patients.

RESULTS A total of 269 patients were included in this study, 107 (40.8%) of whom presented during the pandemic. Median pain-to-door times were significantly longer (858 [quartile 1=360, quartile 3 = 2600] vs. 385.5 [200, 745] mins, p<0.0001) and post-revascularization ejection fractions were significantly lower (35 [30, 45] vs. 45 [40, 50], p<0.0001) for patients presenting during vs. prior to the pandemic. While the in-hospital mortality rate did not differ, we observed a higher rate of six-month major adverse cardiovascular events (MACE) for patients who presented during vs. prior to the pandemic (30.8% vs 13.6%, p = 0.0006).

CONCLUSION In conclusion, 34% fewer patients with AMI presented to the hospital during the COVID-19 pandemic, and those who did waited longer to present and experienced more 6-month MACE compared to patients admitted before the pandemic.

CRT-200.08

Outcomes of Acute Coronary Syndrome in Patients With Coronavirus 2019 Infection: A Systematic Review and Meta-Analysis

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BACKGROUND The outcomes of patients with acute coronary syndrome (ACS) and COVID-19 infection are variable. We performed a pooled analysis of studies comparing the outcomes of ACS in patients with COVID-19 versus no COVID-19 infection.

METHODS Statistical analysis was performed using Revman V.5.3 and Mantel Haenszel risk ratio. Outcomes studied were 1) in-hospital all-cause and cardiovascular mortality; 2) cardiac arrest on presentation; 3)

myocardial infarction with nonobstructive coronary arteries (MINOCA); 4) aspiration thrombectomy use; and 5) no reflow phenomenon.

RESULTS Nine studies (6,664 patients) met the inclusion criteria. Patients with ACS and COVID-19 infection have 4.6 times and 3.8 times higher risk of in-hospital all-cause and cardiovascular mortality (RR 4.58, 95% CI 3.23 - 6.50, p<0.001) (RR 3.83, 95% CI 1.32- 11.12, p=0.01), respectively, compared to patients without COVID-19. They also have a significantly high risk of cardiac arrest on presentation (RR 1.95, 95% CI 1.24 - 3.07, p=0.004). There was an elevated risk of requiring aspiration thrombectomy (RR 1.55, 95% CI 1.11 - 2.18, p=0.01) and no reflow (RR 2.28, 95% CI 1.37 - 3.77, p=0.001), along with higher risk of MINOCA (RR 2.49, 95% CI 1.31 - 4.72, p=0.005) in COVID-19 patients. Subgroup analysis of patients with STEMI also showed a significantly higher risk of in-hospital all-cause mortality, cardiac arrest on presentation, no reflow, and use of aspiration thrombectomy. Serum C-reactive protein (MD 65.33 mg/L, 95% CI 44.42 - 86.23, p<0.001) and D-dimer levels (MD 1.48 mg/L, 95% CI 0.65 - 2.31, p=0.005) were significantly higher in COVID-19 patients.

CONCLUSIONS Patients with ACS and COVID-19 have an increased risk of in-hospital all-cause and cardiovascular mortality, as well as higher risk of aspiration thrombectomy use, no reflow and MINOCA compared to no COVID-19 patients.

Figure (A) Pooled analysis of outcomes in acute coronary syndrome among patients with coronavirus 2019 (COVID-19) vs. no COVID-19 infection

(B) Pooled analysis of outcomes in ST-elevation myocardial infarction among patients with COVID-19 vs. no COVID-19 infection.

CRT-200.09

Myocarditis After COVID-19 Vaccination: A Systematic Review of Case Studies

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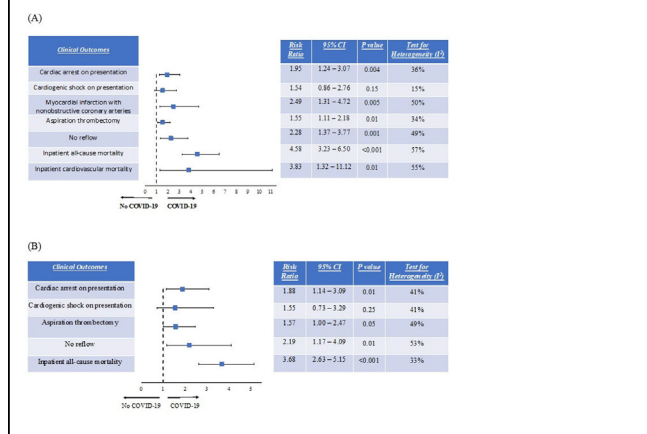
BACKGROUND The coronavirus disease of 2019 (COVID-19) is a global pandemic with over 200 million cases and four million deaths worldwide. Anti-COVID-19 vaccinations have had exceptional success in subduing the incidence, prevalence, and disease severity of COVID-19, but rare cases of myocarditis have been reported after COVID-19 vaccinations.

METHODS We performed a systematic literature search on PUBMED, MEDLINE, EMBASE, and Cochrane Reviews database from inception to July 18, 2021. Studies were analyzed based on predetermined eligibility criteria.

RESULTS A total of 19 studies containing 73 cases of COVID-19 vaccine-associated myocarditis were catalogued. Mean age was 25 years, and male to female ratio was 17:1. For 87.7% of patients, myocarditis occurred after the second dose. Average time to onset and length of hospitalization were 3.5 days and 5.2 days, respectively. Prognosis was benign with 100% recovery. Chest pain (100%); elevation of troponin (100%) and CRP (94.4%); and ST elevation on EKG (81.4%) were common. NSAIDs (73.5%) were the most used medication, followed by colchicine (50%).

CONCLUSIONS Patients with COVID-19 vaccine-associated myocarditis are usually younger males presenting with chest pain 3.5 days after receiving their second dose. Work-up typically shows elevation of troponin and CRP with ST changes in EKG. Diagnosis is made after excluding all other etiologies. Given significant population benefit from COVID-19 vaccination, physicians should continue to encourage vaccination while remaining vigilant of the very rare occurrence of myocarditis following COVID-19 vaccination.

Characteristics	N (%)	Laboratory and Testing Variables	N (%)	Treatment	N (%)
Age, mean (range), year	25.0 (14-70)	Troponin		NSAID	25 (34.2)
Sex		Elevated	29 (39.7)	Colchicine	17 (23.3)
Male	69 (94.5)	Not elevated	0	Steroids	7 (9.6)
Female	4 (5.5)	Not reported	44 (60.3)	Beta-blocker	7 (9.6)
Vaccine type		cTnI, mean (SD), ng/mL	8.3 (8.7)	IVIG	6 (8.2)
BNT-162b2	47 (64.4)	Peak cTnI, mean (SD), ng/mL	18.1 (13.3)	Aspirin	4 (5.5)
mRNA-1273	25 (34.2)	hs-cTnI, mean (SD), pg/mL	2,081 (2,459)	ACEIs/ARB	3 (4.1)
Ad.26.COV2.S	1 (1.4)	Peak hs-cTnI, mean (SD), pg/mL	6,028 (2,098)	Acetaminophen	1 (1.4)
Vaccine dose		cTnT, mean (SD), ng/L	373.1 (463.5)	Diuretics	1 (1.4)
First	9 (12.3)	Peak cTnT, mean (SD), ng/L	658.1 (564.9)	Statin	1 (1.4)
Second	64 (87.7)	WBC		Clopidogrel	1 (1.5)
Time to onset, mean (SD), day	3.5 (3.82)	Normal	15 (20.6)	Not reported	39 (53.4)
Length of stay, mean (SD), day	5.2 (1.90)	Abnormal	8 (10.9)	*Ectopic atrial rhythm, sinus tachycardia, non-sustained ventricular tachycardia, left axis deviation, and incomplete right bundle branch block	
Symptoms	**N (%)**	Not reported	50 (68.5)		
Fever		WBC count, mean (SD), /μL	8,987 (3,943)	Abbreviations: ACEIi = angiotensin-converting enzyme inhibitor, ARB = angiotensin II receptor blocker, BNP = brain natriuretic peptide, CRP = c-reactive protein, cTnI = cardiac troponin I, cTnT = cardiac troponin T, DBP = diastolic blood pressure, EKG = electrocardiogram, ESR = erythrocyte sedimentation rate, hs-cTnI = highly-sensitive cardiac troponin I, IVIG = intravenous immunoglobulin, LVEF = left ventricular ejection fraction, NSAID = non-steroidal anti-inflammatory drug, PR = pulse rate, RR = respiratory rate, SBP = systolic blood pressure, SD = standard deviation, SpO2 = pulse oximeter oxygen saturation, WBC = white blood cell	
Yes	20 (27.4)	CRP			
No	20 (27.4)	Elevated	34 (46.6)		
Not reported	33 (45.2)	Not elevated	2 (2.6)		
Chest pain		Not reported	37 (50.7)		
Yes	64 (87.7)	CRP, mean (SD), mg/L	46.3 (41.0)		
No	0	ESR			
Not reported	9 (12.3)	Elevated	14 (19.2)		
Chills		Not elevated	13 (17.8)		
Yes	12 (16.4)	Not reported	46 (63.0)		
No	52 (71.2)	ESR, mean (SD), mm/h	16.6 (10.8)		
Not reported	9 (12.3)	BNP			
Myalgia		Elevated	2 (2.7)		
Yes	12 (16.4)	Not elevated	7 (9.6)		
No	52 (71.2)	Not reported	64 (87.7)		
Not reported	9 (12.3)	BNP, mean (SD), pg/mL	71.2 (60.4)		
Headache		EKG			
Yes	7 (9.6)	Normal	3 (4.1)		
No	57 (78.1)	ST elevation	57 (78.1)		
Not reported	9 (12.3)	ST depression	2 (2.7)		
Dyspnea		PR depression	8 (11.0)		
Yes	7 (9.6)	T wave inversion	27 (37.0)		
Not reported	9 (12.3)	Others*	8 (11.0)		
Vital Signs	**Mean (SD)**	Not reported	3 (4.1)		
Temperature, °C	37.5 (0.78)	LVEF			
SBP, mmHg	119.8 (14.1)	<50%	10 (13.7)		
DBP, mmHg	71.6 (11.1)	≥50%	59 (80.8)		
PR, beats per minute	91.4 (18.5)	Not reported	3 (5.5)		
RR, breaths per minute	18.0 (1.31)	LVEF, mean (SD), %	53.3 (4.7)		
SpO2, %	98.7 (1.32)				