

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.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active. diagnosis and are not managed appropriately despite being at risk for adverse events and ongoing chest pain.

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Differences in Cardiac Presentations Between the COVID and Pre-COVID Era: Single Tertiary Centre Experience

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**Background:** In Australia, overall COVID case burden in 2020 was low; however, government mandated lockdown resulted in reduced medical attendances. We assessed for differences in cardiac presentations and 30-day outcomes during the first lockdown period compared with the previous year.

**Methods:** We retrospectively analysed consecutive patients admitted to our hospital from March to July 2019 (pre-COVID era) and March to July 2020 (COVID era). For STelevation myocardial infarction (STEMI) presentations, we explored median times from symptom to balloon (S2B) and door to balloon (D2B).

**Results:** A total of 665 patients were analysed (COVID era, n=283, 42.6%; pre-COVID era, n=382, 57.4%). COVID era patients were younger with higher prevalence of family history of coronary disease and valvular heart disease. In the COVID era, more STEMI admissions (24.5 vs 14.1%, p=0.001) and more ambulance arrivals (54.1 vs 45.3%, p=0.025) were seen. There were no differences in rates of admission with heart failure (7.4 vs 8.4%), arrhythmia (17.4 vs 14.9%), syncope (3.2 vs 5.0%) or other cardiac conditions (18.8 vs 24.1%) in both groups (all p>0.05). Among STEMI patients there were no statistically significant differences in S2B time (median 193 $\pm$ 95 vs 233 $\pm$ 118 min, p=0.15) or D2B time (median 70 $\pm$ 43 vs 62 $\pm$ 41 min, p=0.46). There were no differences in

in-hospital death (2.1 vs 0.8%, p=0.18) or 30-day readmissions (14.1 vs 13.7%, p=0.90).

**Conclusion:** During the COVID-19 pandemic, there were fewer cardiac admissions with increased STEMI presentations and ambulance arrivals. No differences were noted in S2B or D2B times. Incidences of early outcomes were similar in both groups.

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Differences in STEMI, Door-to-Balloon Time and Mortality Between Pre-COVID and COVID Era: A Systematic Review

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Aims: The COVID-19 pandemic has been linked to worsening clinical outcomes in STEMI patients. We reviewed global differences in door-to-balloon time (D2BT) and mortality outcomes in STEMI patients in the context of the pandemic.

**Methods:** We searched PubMed, SCOPUS and Embase to perform a scoping review comparing D2BT times and mortality in STEMI patients in pre-COVID and COVID era. We included 12 studies reporting on both D2BT and early mortality (in-hospital or 30 days) (N=28,426).

**Results:** We observed an increase in D2BT (mean difference 5.5 min, 95% CI 0.65–10.34, p=0.03, Figure) with numerical but not statistically significant differences in early mortality (OR 1.12, 95% CI 0.88–1.42, p=0.37). Significant heterogeneity was noted across the global studies particularly for D2BTs.

**Conclusion:** The COVID-19 era was associated with longer STEMI D2BT with similar early mortality when compared to the pre-pandemic period.

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	COVID era Pre			-COVID era			Mean Difference	Mean Difference	
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Chan 2020	69.5	38.9	164	72	42.2	908	9.5%	-2.50 [-9.06, 4.06]	
Chew 2021	55	25.9	95	52	25.9	208	9.7%	3.00 [-3.29, 9.29]	+
De Luca 2021	40	33.3	7385	40	28.9	8698	11.5%	0.00 [-0.97, 0.97]	•
Kobayashi 2022	88	27	121	75	25	209	9.9%	13.00 [7.12, 18.88]	
Kwok 2020	48	67.4	683	37	57.8	3255	10.1%	11.00 [5.57, 16.43]	-
Popovic 2020	72	138	83	72	118	1552	2.1%	0.00 [-30.26, 30.26]	
Ramzy 2022	86.6	23.3	145	68.49	7.04	839	10.8%	18.11 [14.29, 21.93]	+
Rodriguez-Leor 2020	110	55.6	1009	110	51.9	1305	10.5%	0.00 [-4.44, 4.44]	+
Soylu 2021	83	340	82	69	328.9	83	0.2%	14.00 [-88.09, 116.09]	
Sturkenboom 2022	38	20.7	378	43	20.7	378	11.1%	-5.00 [-7.95, -2.05]	+
Sutherland 2022	68	37	37	59	29.6	25	4.9%	9.00 [-7.64, 25.64]	
Xlang 2020	45	41.5	220	33	23.7	564	9.9%	12.00 [6.18, 17.82]	
Total (05% CI)			10402			10074	100.0%	E 40 [0 6E 10 24]	
10(a) (95% CI)			10402			16024	100.0%	5.49 [0.65, 10.54]	
Heterogeneity: Tau <sup>2</sup> = 53.06; Chl <sup>2</sup> = 141.87, df = 11 (P < $0.00001$ ); l <sup>2</sup> = 92%									
Test for overall effect: Z = 2.22 (P = 0.03)									Higher in Pre-COVID era Higher in COVID era