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Impact of COVID-19 Pandemic on TAVR Activity: A Worldwide Registry

Xavier Armario

Jennifer Carron

Mohamed Abdel-Wahab

Didier Tchetché

Sabine Bleiziffer

See next page for additional authors

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Authors

Xavier Armario, Jennifer Carron, Mohamed Abdel-Wahab, Didier Tchetché, Sabine Bleiziffer, Thierry Lefevre, Thomas Modine, Alexander Wolf, Thomas Pilgrim, Pedro Villablanca, Michael Cunnington, Nicolas Van Mieghem, Christian Hengstenberg, Lars Sondergaard, Martin Swaans, Bernard Prendergast, Marco Barbanti, John Webb, Neal Uren, Jon Resar, Mao Chen, David Hildick-Smith, Mark Spence, David Zweiker, Rodrigo Bagur, Hospital de Cruz, Flavio Ribichini, Duk-Woo Park, Pablo Codner, Joanna Wykrzykowska, Matjaz Bunc, Rodrigo Estevez-Loureiro, Karl Poon, Matthias Götberg, Hüseyin Ince, Azeem Latib, Erik Packer, Marco Angelillis, Yusuke Kobari, Luis Nombela-Franco, Yingqiang Guo, Mikko Savontaus, Amr A. Arafat, Chad Kliger, David Roy, Béla Merkely, Mariana Silva, Jonathon White, Masanori Yamamoto, Pedro Carrilho Ferreira, Stefan Toggweiler, Yohei Ohno, Ines Rodrigues, Soledad Ojeda, Vasileios Voudris, Marek Grygier, Khaled Almerri, Ignacio Cruz-Gonzalez, Viliam Fridrich, Jose De la Torre Hernandez, Nicolo Piazza, Stephane Noble, Dabit Arzamendi, Ibrahim H. Kurt, Johan Bosmans, Martins Erglis, Ivan Casserly, Fadi Sawaya, Ravinay Bhindi, Joelle Kefer, Wei-Hsian Yin, Liesbeth Rosseel, Hyo-Soo Kim, Stephen O'Connor, Farrel Hellig, Matias Szejfman, Oscar Mendiz, Robert Xuereb, Fabio Brito Jr, Vilhelmas Bajoras, Mohammed Balghith, Michael Kang-Yin Lee, Guering Eid-Lidt, Bert Vandeloo, Vinicius Vaz, Mirvat Alasnag, Gian Paolo Ussia, Jorge Mayol, Gennaro Sardella, Wacin Buddhari, Hsien-Li Kao, Antonio Dager, Apostolos Tzikas, Ahmad Edris, Luis Gutierrez, Eduardo Arias, Mehmet Erturk, César Nicolás Conde Vela, Darko Boljevic, Adolfo Ferrero Guadagnoli, Ahmed ElGuindy, Luciano Santos, Luis Perez, Gabriel Maluenda, Ali Riza Akyüz, Imad Alhaddad, Haitham Amin, So Chak Yu, Arif Alnooryani, Juan Albistur, Quang Nguyen, and Darren Mylotte

myocardial infarction (MI), heart failure, atrial fibrillation, prior stroke, and chronic obstructive pulmonary disease (all, $P < 0.001$). Both CKD and ESRD were associated with longer hospital stay (5.1 vs 3.8 days and 7.2 vs 3.8 days; $P < 0.001$). Patients with ESRD had a higher incidence of vascular complications (4.9% vs 3.9%; $P = 0.05$), procedural MI (6.0% vs 3.4%; $P = 0.04$), and cardiac arrest (0.8% vs 0.2%; $P = 0.01$). In-hospital mortality, conversion to open surgery, and the use of mechanical circulatory support did not differ between groups. **Table 1** presents in-hospital outcomes of patients undergoing TAVR in the United States from 2016 to 2018.

	No CKD (n = 87,560)	CKD (n = 43,565)	ESRD (n = 4,910)	CKD Adjusted OR (95% CI) <i>P</i> = 0.090	ESRD Adjusted OR (95% CI) <i>P</i> = 0.940
In-hospital mortality	1,165 (1.3%)	775 (1.8%)	100 (2.0%)	0.8 (0.6-1.0) <i>P</i> = 0.090	1.0 (0.6-1.7) <i>P</i> = 0.940
Impella	205 (0.2)	165 (0.4)	10 (0.2)	1.1 (0.6-2.1) <i>P</i> = 0.700	0.4 (0.1-1.8) <i>P</i> = 0.240
Intra-aortic balloon	355 (0.4)	200 (0.5)	65 (1.3)	0.7 (0.4-1.1) <i>P</i> = 0.140	1.3 (0.7-2.8) <i>P</i> = 0.410
Vascular access complications	3,240 (3.7)	1,830 (4.2)	240 (4.9)	1.1 (1.0-1.3) <i>P</i> = 0.060	1.3 (1.0-1.8) <i>P</i> = 0.050
Procedural acute MI	2,800 (3.2)	1,495 (3.4)	295 (6.0)	0.8 (0.7-1.0) <i>P</i> = 0.080	1.4 (1.0-1.9) <i>P</i> = 0.040
Cardiogenic shock	1,205 (1.4)	665 (1.5)	135 (2.7)	0.9 (0.6-1.1) <i>P</i> = 0.260	1.5 (0.9-2.4) <i>P</i> = 0.090
Cardiac arrest	195 (0.2)	130 (0.3)	40 (0.8)	1.1 (0.6-2.2) <i>P</i> = 0.780	3.3 (1.3-8.4) <i>P</i> = 0.010
Conversion to open surgery	400 (0.5)	140 (0.3)	30 (0.6)	0.8 (0.5-1.5) <i>P</i> = 0.520	2.1 (0.8-5.4) <i>P</i> = 0.140

CONCLUSION Patients with renal dysfunction undergoing TAVR are at higher risk for cardiovascular complications, although this does not seem to result in increased in-hospital mortality or more frequent conversion to open surgery.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

during admission (HR: 3.02; 95% CI: 2.36-3.88; $P \leq 0.001$) were significantly associated with increased 2-year mortality. History of CCB and BB use was not associated with either an increase or decrease in mortality.

CONCLUSION Cardiovascular diseases are associated with worse 2-year mortality. Chronic use of CCB and BB was not associated with differences in 2-year outcomes of COVID-19 and therefore likely safe.

CATEGORIES CORONARY: Pharmacology/Pharmacotherapy

TCT-549

Impact of COVID-19 Pandemic on TAVR Activity: A Worldwide Registry



Xavier Armario,¹ Jennifer Carron,² Mohamed Abdel-Wahab,³ Didier Tchetché,⁴ Sabine Bleiziffer,⁵ Thierry Lefevre,⁶ Thomas Modine,⁷ Alexander Wolf,⁸ Thomas Pilgrim,⁹ Pedro Villablanca,¹⁰ Michael Cunningham,¹¹ Nicolas Van Mieghem,¹² Christian Hengstenberg,¹³ Lars Sondergaard,¹⁴ Martin Swaans,¹⁵ Bernard Prendergast,¹⁶ Marco Barbanti,¹⁷ John Webb,¹⁸ Neal Uren,¹⁹ Jon Resar,²⁰ Mao Chen,²¹ David Hildick-Smith,²² Mark Spence,²³ David Zweiker,²⁴ Rodrigo Bagur,²⁵ Hospital de Cruz,²⁶ Flavio Ribichini,²⁷ Duk-Woo Park,²⁸ Pablo Codner,²⁹ Joanna Wykrzykowska,³⁰ Matjaz Bunc,³¹ Rodrigo Estevez-Loureiro,³² Karl Poon,³³ Matthias Göberg,³⁴ Hüseyin Ince,³⁵ Azeem Latib,³⁶ Erik Packer,³⁷ Marco Angelillis,³⁸ Yusuke Kobari,³⁹ Luis Nombela-Franco,⁴⁰ Yingqiang Guo,⁴¹ Mikko Savontaus,⁴² Amr A. Arafat,⁴³ Chad Kliger,⁴⁴ David Roy,⁴⁵ Béla Merkely,⁴⁶ Mariana Silva,⁴⁷ Jonathon White,⁴⁸ Masanori Yamamoto,⁴⁹ Pedro Carrilho Ferreira,⁵⁰ Stefan Toggweiler,⁵¹ Yohei Ohno,⁵² Ines Rodrigues,⁵³ Soledad Ojeda,⁵⁴ Vasileios Voudris,⁵⁵ Marek Grygier,⁵⁶ Khaled Almerri,⁵⁷ Ignacio Cruz-Gonzalez,⁵⁸ Viliam Fridrich,⁵⁹ Jose De la Torre Hernandez,⁶⁰ Nicolo Piazza,⁶¹ Stephane Noble,⁶² Dabit Arzamendi,⁶³ Ibrahim halil Kurt,⁶⁴ Johan Bosmans,⁶⁵ Martins Erglis,⁶⁶ Ivan Casserly,⁶⁷ Fadi Sawaya,⁶⁸ Ravinay Bhindi,⁶⁹ Joelle Kefer,⁷⁰ Wei-Hsian Yin,⁷¹ Liesbeth Rosseel,⁷² Hyo-Soo Kim,⁷³ Stephen O'Connor,⁷⁴ Farrel Hellig,⁷⁵ Matias Szejfman,⁷⁶ Oscar Mendiz,⁷⁷ Robert Xuereb,⁷⁸ Fabio Brito Jr.,⁷⁹ Vilhelmas Bajoras,⁸⁰ Mohammed Balghith,⁸¹ Michael Kang-Yin Lee,⁸² Guering Eid-Lidt,⁸³ Bert Vandelo,⁸⁴ Vinicius Vaz,⁸⁵ Mirvat Alasnag,⁸⁶ Gian Paolo Ussia,⁸⁷ Jorge Mayol,⁸⁸ Gennaro Sardella,⁸⁹ Wacim Buddhari,⁹⁰ Hsien-Li Kao,⁹¹ Antonio Dager,⁹² Apostolos Tzikas,⁹³ Ahmad Edris,⁹⁴ Luis Gutierrez,⁹⁵ Eduardo Arias,⁹⁶ Mehmet Erturk,⁹⁷ César Nicolás Conde Vela,⁹⁸ Darko Boljevic,⁹⁹ Adolfo Ferrero Guadagnoli,¹⁰⁰ Ahmed ElGuindy,¹⁰¹ Luciano Santos,¹⁰² Luis Perez,¹⁰³ Gabriel Maluenda,¹⁰⁴ Ali Riza Akyüz,¹⁰⁵ Imad Alhaddad,¹⁰⁶ Haitham Amin,¹⁰⁷ So Chak Yu,¹⁰⁸ Arif Alnooryani,¹⁰⁹ Juan Albistur,¹¹⁰ Quang Nguyen,¹¹¹ Darren Mylotte¹¹²

COVID

Abstract nos: 548-553

TCT-548

Impact of Cardiovascular Diseases, Calcium-Channel Blockers, and Beta-Blockers on Two-Year Mortality of Patients With COVID-19: A Single-Center Retrospective Analysis



Rashid Alhusain,¹ Ahmed Ahmed,² Mohammed Ali,³ Pat Bishop,⁴ Adnan Halboni,⁵ Abdalaziz Awadelkarim,³ John Dayco,³ Abdul-Rahman Suleiman,⁶ Mohamad Amer Soudan,⁷ Antoinette Stewart,⁸ Saliha Erdem,⁹ Nasser Lakkis,³ M. Chadi Alraies⁶
¹Wayne State University, Detroit, Michigan, USA; ²Mayo Clinic, Jacksonville, Florida, USA; ³DMC/Wayne State University, Detroit, Michigan, USA; ⁴DMC/Wayne State University, Novi, Michigan, USA; ⁵Detroit Medical Center/Wayne State University, Detroit, Michigan, USA; ⁶Detroit Medical Center, Detroit, Michigan, USA; ⁷Department of Internal Medicine, University Hospitals, Cleveland, Ohio, USA; ⁸Wayne State University School of Medicine, Detroit, Michigan, USA; and the ⁹Wayne State University School of Medicine, Detroit, Michigan, USA

BACKGROUND Cardiovascular diseases and directed therapies are hypothesized to be associated with worse outcomes in patients with COVID-19. We investigated the effect of cardiovascular diseases and chronic treatment with calcium-channel blockers (CCB) and beta-blockers (BB) on 2-year mortality of COVID-19 patients.

METHODS We retrospectively analyzed the data of all consecutive patients admitted to our hospital system and diagnosed with SARS-CoV-2 through polymerase chain reaction between March 1, 2020, and April 30, 2020. Patients were followed up until May 1, 2022. The chi-square test was used to compare categorical variables, and the Mann-Whitney *U* test was used for continuous variables. Cox proportional hazards modeling was applied to all-cause 2-year mortality. Variables significant in univariate analysis ($P < 0.05$) were selected for the multivariate models.

RESULTS A total of 1,052 patients were included. The median age was 67 years (IQR: 58-77). At 2 years, 682 (64.8%) survived, and 370 (35.2%) expired. History of hyperlipidemia (HR: 1.34; 95% CI: 1.1-1.65; $P = 0.17$), history of heart failure (HR: 1.54; 95% CI 1.25-1.9; $P \leq 0.001$), history of hypertension (HR: 1.5; 95% CI: 1.08-2.1; $P \leq 0.017$), and MI

¹Hospital Universitari Germans Trias i Pujol, Barcelona, Spain; ²Galway University Hospital, Galway, Ireland; ³Heart Center Leipzig, University Hospital, Leipzig, Germany; ⁴Clinique Pasteur Toulouse, Toulouse Cedex 3, France; ⁵HDZ NRW, Bad Oeynhausen, Germany; ⁶Institut Cardiovasculaire Paris Sud, Ramsay Santé, Massy, France; ⁷Bordeaux University Hospital, Bordeaux, France; ⁸Contilia Heart and Vascular Centre, Essen, Germany; ⁹Bern University Hospital, Bern, Switzerland; ¹⁰Henry Ford Hospital, Detroit, Michigan, USA; ¹¹Leeds Teaching Hospitals, Leeds, United Kingdom; ¹²Erasmus Medical Center, Rotterdam, the Netherlands; ¹³Medical University of Vienna, Vienna, Austria; ¹⁴Rigshospitalet-Copenhagen University Hospital, Copenhagen, Denmark; ¹⁵St. Antonius Hospital, Hedel, the Netherlands; ¹⁶St. Thomas' Hospital and Cleveland Clinic London, London, United Kingdom; ¹⁷AOU Policlinico "G. Rodolico-San Marco," Catania, Italy; ¹⁸St. Paul's Hospital, Vancouver, British Columbia, Canada; ¹⁹Edinburgh Heart Centre, Edinburgh, United Kingdom; ²⁰Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; ²¹West China Hospital, Chengdu, Sichuan, China; ²²Sussex Cardiac Centre, University Hospitals Sussex, Brighton, United Kingdom; ²³Department of Cardiology, Belfast Health and Social Care Trust, Belfast, United Kingdom; ²⁴Medical University of Graz, Graz, Austria; ²⁵London Health Sciences Centre, London, Ontario, Canada; ²⁶CHLO, Carnaxide, Portugal; ²⁷Università di Verona, Verona, Italy; ²⁸Asan Medical Center, Seoul, Republic of Korea; ²⁹Rabin Medical Center, Petach Tikva, Israel; ³⁰UMC Groningen, Groningen, the Netherlands; ³¹University Medical Center Ljubljana, Ljubljana, Slovenia; ³²Hospital Alvaro Cunqueiro, Vigo, Spain; ³³The Prince Charles Hospital, Brisbane, Queensland, Australia; ³⁴Skane University Hospital, Lund, Sweden; ³⁵University Hospital Rostock and Vivantes Klinikum Berlin, Berlin, Germany; ³⁶Montefiore Medical Center, Scarsdale, New York, USA; ³⁷Haukeland University Hospital, Bergen, Norway; ³⁸Azienda Ospedaliero Universitaria Pisana, Pisa, Italy; ³⁹Keio University School of Medicine, Tokyo, Japan; ⁴⁰Hospital Clinico San Carlos, Madrid,

Spain; ⁴¹West China Hospital, Chengdu, Sichuan, China; ⁴²Turku University Hospital, Turku, Finland; ⁴³Prince Sultan Cardiac Center, Riyadh, Saudi Arabia; ⁴⁴Hofstra School of Medicine, New York, New York, USA; ⁴⁵St. Vincent's Hospital, Sydney, New South Wales, Australia; ⁴⁶Semmelweis University Heart and Vascular Center, Budapest, Hungary; ⁴⁷Centro Hospitalar de Vila Nova de Gaia/Espinho, Vila Nova de Gaia, Portugal; ⁴⁸Auckland Hospital, Auckland, New Zealand; ⁴⁹Toyohashi Heart Center, Toyohashi, Japan; ⁵⁰Cardiology Department, Santa Maria University Hospital, CHLN, CAML, CCUL, Faculty of Medicine, University of Lisbon, Lisbon, Portugal; ⁵¹Luzerner Kantonsspital, Luzern, Switzerland; ⁵²Tokai University, Isehara, Japan; ⁵³Hospital Santa Marta, Lisbon, Portugal; ⁵⁴Reina Sofia Hospital, Córdoba, Spain; ⁵⁵Onassis Cardiac Surgery, Athens, Greece; ⁵⁶Poznan University of Medical Sciences, Poznan, Poland; ⁵⁷Chest Diseases Hospital, KUWAIT, Kuwait; ⁵⁸University Hospital of Salamanca, Salamanca, Spain; ⁵⁹NÜSCH, Bratislava, Slovakia, Bratislava, Slovakia; ⁶⁰Hospital Universitario Marques de Valdecilla, Santander, Spain; ⁶¹McGill University Health Center, Montreal/Quebec, Quebec, Canada; ⁶²Hopitaux Universitaires De Geneve, Geneva, Switzerland; ⁶³Hospital de la Santa Creu i Sant Pau, Barcelona, Spain; ⁶⁴Adana, Seyhan, Turkey; ⁶⁵University of Antwerp, Antwerp, Belgium; ⁶⁶Pauls Stradiņš University Hospital, Riga, Latvia; ⁶⁷Mater Hospital, Dublin, Dublin, Ireland; ⁶⁸American University of Beirut Medical Center, Beirut, Lebanon; ⁶⁹Royal North Shore Hospital, Sydney, New South Wales, Australia; ⁷⁰Cliniques Universitaires Saint-Luc UCL, Brussels, Belgium; ⁷¹Cheng Hsin General Hospital, Taipei, Taiwan; ⁷²Algemeen Stedelijk Ziekenhuis, Hofstade, Belgium; ⁷³Seoul National University Hospital, Seoul, Republic of Korea; ⁷⁴St. James's Hospital, Blackrock, Dublin, Ireland; ⁷⁵Sunninghill Hospital /University of Cape Town, Johannesburg, South Africa; ⁷⁶Sanatorio Finochietto/Sanatorio Guemes, Buenos Aires, Argentina; ⁷⁷Fundacion Favaloro, Buenos Aires, Argentina; ⁷⁸Mater Dei Hospital, Msida, Malta; ⁷⁹Heart Institute, University of São Paulo Medical School, São Paulo, Brazil; ⁸⁰Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania; ⁸¹King Abdulaziz Cardiac Center, Riyadh, Saudi Arabia; ⁸²Queen Elizabeth Hospital, Hong Kong, China; ⁸³Instituto Nacional de Cardiología, Mexico City, Federal District, Mexico; ⁸⁴Cardiovascular Center, Universitair Ziekenhuis Brussel (UZB), Vrije Universiteit Brussel (VUB), Brussels, Belgium; ⁸⁵Anis Rassi Hospital, Goiania, Goiás, Brazil; ⁸⁶King Fahd Armed Forces Hospital, Jeddah, Saudi Arabia; ⁸⁷Campus Bio-Medico University, Rome, Italy; ⁸⁸Sanatorio Americano, Montevideo, Uruguay; ⁸⁹Policlinico Umberto I University, Rome, Italy; ⁹⁰King Chulalongkorn Memorial Hospital, Bangkok, Thailand; ⁹¹National Taiwan University Hospital, Taipei, Taiwan; ⁹²Angiografía De Occidente, Cali, Colombia; ⁹³AHEPA University Hospital, Thessaloniki, Greece; ⁹⁴Cleveland Clinic Foundation, Laguna Niguel, California, USA; ⁹⁵Hospital Clinica Biblica, Escazu, Costa Rica; ⁹⁶National Institute of Cardiology, Mexico City, Federal District, Mexico; ⁹⁷Health Science University, Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Turkey; ⁹⁸Instituto Nacional Del Corazon, Lima, Peru; ⁹⁹"Dedinje" Cardiovascular Institute, Belgrade, Serbia; ¹⁰⁰Hospital Privado Universitario de Córdoba, Córdoba, Argentina; ¹⁰¹Magdi Yacoub Heart Foundation, Cairo, Egypt; ¹⁰²Hospital Santa Lúcia, Brasília, Distrito Federal, Brazil; ¹⁰³Hospital Gmo. Grant Benavente, Concepción, Chile; ¹⁰⁴San Borja Arriaran Hospital & University of Chile, Santiago, Chile; ¹⁰⁵Trabzon Ahi Evren Göğüs Kalp ve Damar Cerrahisi Eğitim ve Araştırma Hastanesi, Trabzon, Turkey; ¹⁰⁶The Jordan Cardiovascular Center, Amman, Jordan; ¹⁰⁷BDF Hospital, Manama, Bahrain; ¹⁰⁸Prince of Wales Hospital, Hong Kong; ¹⁰⁹Alqassimi Hospital, Sharjah, United Arab Emirates; ¹¹⁰Hospital de Clinicas Dr Manuel Quintela, Montevideo, Uruguay; ¹¹¹Vietnam National Heart Institute, Hanoi, Vietnam; and the ¹¹²University College Hospital Galway, Galway, Ireland

BACKGROUND The COVID-19 pandemic had a considerable impact on the provision of structural heart intervention worldwide. Our objectives were: 1) to assess the impact of the COVID-19 pandemic on transcatheter aortic valve replacement (TAVR) activity globally; and 2) to determine the differences in the impact according to geographic region and the demographic, development, and economic status of diverse international health care systems.

METHODS We developed a multinational registry of global TAVR activity and invited individual TAVR sites to submit TAVR implant data

before and during the COVID-19 pandemic. Specifically, the number of TAVR procedures performed monthly from January 2019 to December 2021 was collected. The adaptive measures to maintain TAVR activity by each site were recorded, as was a variety of indices relating to type of health care system and national economic indices. The primary subject of interest was the impact on TAVR activity during each of the pandemic waves (2020 and 2021) compared with the same period pre-COVID-19 (2019).

RESULTS Data were received from 130 centers from 61 countries, with 14 subcontinents and 5 continents participating in the study. Overall, TAVR activity increased by 16.7% (2,337 procedures) between 2018 and 2019 (ie, before the pandemic), but between 2019 and 2020 (ie, first year of the pandemic), there was no significant growth (-0.1%; -10 procedures). In contrast, activity again increased by 18.9% (3,085 procedures) between 2020 and 2021 (ie, second year of the pandemic). During the first pandemic wave, there was a reduction of 18.9% (945 procedures) in TAVR activity among participating sites, while during the second and third waves, there was an increase of 6.7% (489 procedures) and 15.9% (1,042 procedures), respectively. Further analysis and results of this study are ongoing and will be available at the time of the congress.

CONCLUSION The COVID-19 pandemic initially led to a reduction in the number of patients undergoing TAVR worldwide, although health care systems subsequently adapted, and the number of TAVR recipients continued to grow in subsequent COVID-19 pandemic waves.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-550

In-Hospital vs Out-of-Hospital STEMI Mortality in COVID-19-Negative vs COVID-19-Positive Patients in a Large Hospital System in South Florida



Lindsey Clark,¹ Mohammed Ebrahim,² Fangcheng Wu,³ Jianli Niu,⁴ Jonathan Roberts⁵

¹Memorial Hospital West, Miami, Florida, USA; ²Memorial Healthcare System, Pembroke Pines, Florida, USA; ³Memorial Healthcare System, Miramar, Florida, USA; ⁴Memorial Cardiac and Vascular Institute, Memorial Regional Hospital, Memorial Healthcare System, Hollywood, Florida, USA; and the ⁵Memorial Healthcare System, Hollywood, Florida, USA

BACKGROUND It is known that patients experiencing in-hospital ST-segment elevation myocardial infarctions (STEMIs) have higher mortality compared with out-of-hospital STEMIs. However, this has not been studied extensively in COVID-19-positive patients with STEMI. The purpose of this study was to compare the mortality of in-hospital vs out-of-hospital STEMI in patients with and without COVID-19 infection.

METHODS We conducted a single-center, retrospective observational study of all patients admitted to Memorial Healthcare System facility hospitals from April 1, 2020, to August 31, 2021, who had a STEMI. The primary outcome was in-hospital mortality. Subgroup analyses of in-hospital and out-of-hospital STEMI patients were made.

RESULTS A total of 302 patients were included, with 20 being COVID-19 positive. The mortality of in-hospital STEMI was significantly higher than out-of-hospital STEMI, regardless of COVID-19 status. In-hospital COVID-19-negative STEMI patients had a mortality of 33.3% vs in-hospital COVID-19-positive patients with a mortality of 84.6% ($P = 0.015$) (Figure 1). Out-of-hospital COVID-19-negative STEMI patients had a mortality of 8.5% vs out-of-hospital COVID-19-patients with a mortality of 14.3% ($P = 0.474$, likely secondary to $n = 1$ for out-of-hospital COVID-19-positive patient mortality).