

COVID-19 pandemic affects STEMI numbers and in-hospital mortality: results of a nationwide analysis in Germany

V. Oettinger¹, A. Heidenreich¹, M. Zehender¹, C. Bode¹, P. Stachon¹, K. Kaier², C. Von Zur Muehlen¹

¹Medical Center – University of Freiburg, University Heart Center Freiburg, Department of Cardiology and Angiology I, Freiburg, Germany;

²Medical Center – University of Freiburg, Institute of Medical Biometry and Statistics, Faculty of Medicine, University of Freiburg, Freiburg, Germany

On behalf of CeBAC

Funding Acknowledgement: Type of funding sources: None.

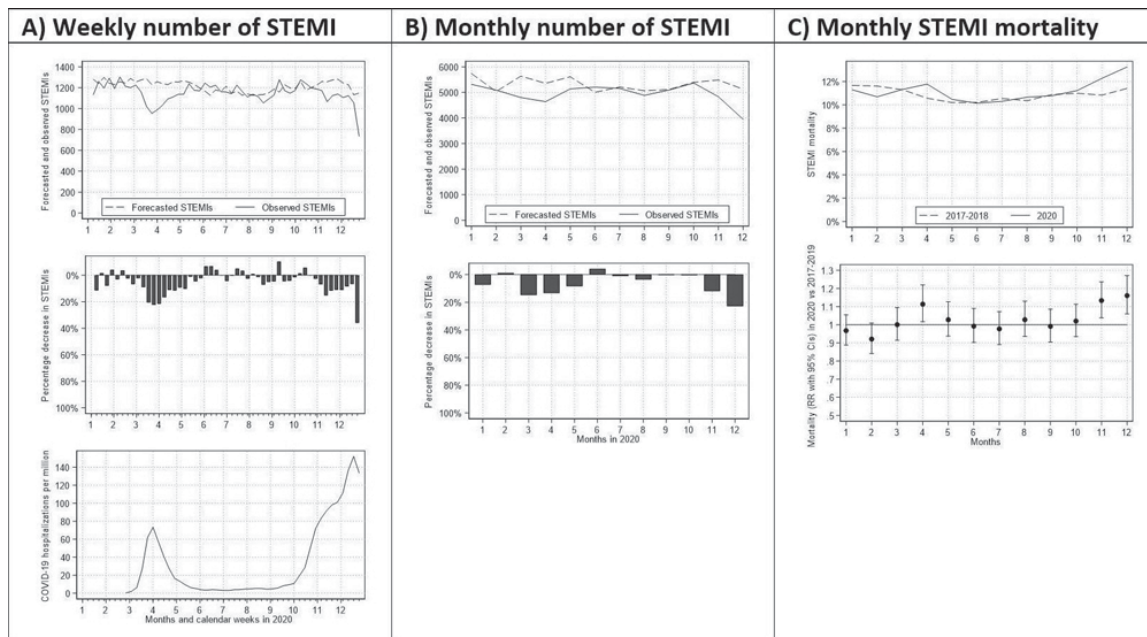
Background: The COVID-19 pandemic led to extensive restrictions in Germany in 2020, including the postponement of elective interventions. We examined the impact on ST-elevation myocardial infarction (STEMI) as an acute and non-postponable disease.

Methods: Using German national records, all STEMI between 2017 and 2020 were identified. Using the number of STEMI cases between 2017 and 2019, we created a forecast for 2020 using poisson regression models and compared it with the observed number of STEMI in 2020.

Results: From 2017 to 2020, 248,062 patients were treated for a STEMI in Germany. Mean age was 65.21 years and 28.36% were female. When comparing forecasted and observed STEMI in 2020, a correlation can be seen: Noticeably fewer STEMI were treated in those weeks respec-

tively months with an increasing COVID-19 hospitalization rate (monthly percentage decrease in STEMI: March –14.85% April –13.39%, November –11.92%, December –22.95%). At the same time, the risk-adjusted in-hospital mortality increased significantly at the peaks of the first and second waves (monthly in-hospital mortality: April RR=1.11 [95% CI 1.02; 1.21], November 1.13 [1.04; 1.24], December 1.16 [1.06; 1.27]).

Conclusion: The COVID-19 pandemic led to a noticeable decrease in the number of STEMI interventions in Germany at the peaks of the first and second waves in 2020, corresponding to an increase in COVID-19 hospitalizations. At the same time, in-hospital mortality after STEMI increased significantly in these phases.



STEMI during COVID-19 pandemic