

IMPACT OF COVID-19 LOCKDOWN ON STEMI VOLUME AND DOOR-TO-BALLOON TIME

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Background

Measures taken to mitigate the spread of coronavirus disease 2019 (COVID-19) have been correlated to a decline in the number of patients seeking medical care for emergency cardiovascular illness.

Purpose:

Here we evaluate the impact of a state-wide lockdown on ST-elevation myocardial infarction (STEMI) care.

Methods

All consecutive adult patients admitted with an acute STEMI diagnosis and percutaneous intervention (PCI) performed between Jan. 17, 2020, and Jul. 14, 2020, were included in this study. Patient demographics, medical history, and procedure details were collected retrospectively from electronic medical records. Data were segregated according to date into pre-lockdown, lockdown (Mar. 17 to May 13), and post-lockdown groups.

Results

- There were 225 patients in the study cohort.
- The median age was 62 (IQR: 53-71) years.
- Patients were predominantly male (n=154, 68%), white (n=208, 92%), hypertensive (n=139, 61%) and dyslipidemic (n=135, 60%).
- The average weekly rate of **STEMI PCIs performed pre-lockdown decreased by 40% during the lockdown** from 10.9 to 6.5 PCIs per week (p<0.05).
- **Door-to-balloon (D2B) times increased** from 42 (IQR: 28-68) min pre-lockdown to 53 (IQR: 40-72) min during the lockdown (p=0.01).
- **No significant differences were observed in in-hospital mortality** or cardiac troponin measurements within 24 h of procedure between the three groups.

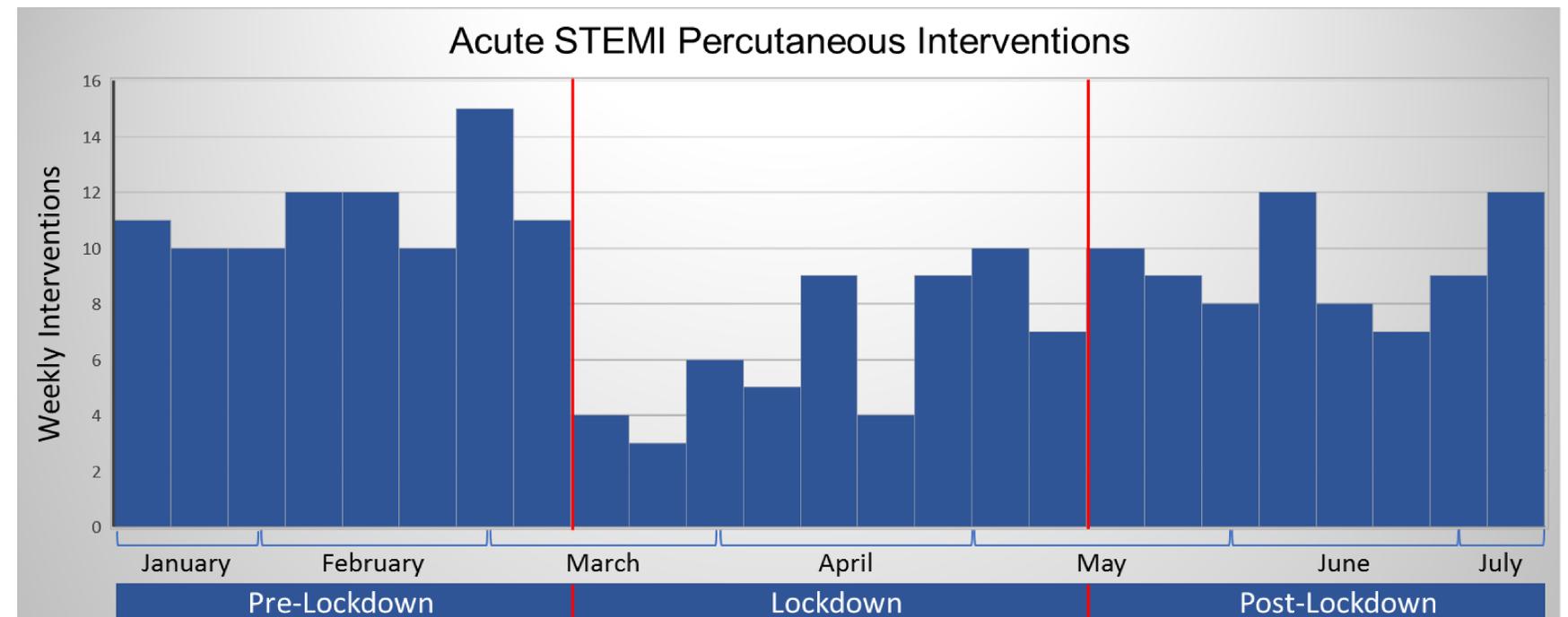


Figure 1. Histogram of weekly number of acute percutaneous interventions pre-lockdown, lockdown and post-lockdown.

Conclusion

Adverse effects of COVID-19-related lockdowns on acute STEMI care include a decrease in PCI volumes and prolonged D2B times.

Our results provide valuable data-driven criteria to help inform patient decision to seek care and to find ways to protect healthcare workers without compromising timely critical intervention.

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