# Percutaneous coronary intervention in acute myocardial infarction before and during the COVID-19 pandemic: first insights from a dedicated COVID-19 hospital

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**Background**: COVID-19 pandemic has caused a worldwide situation of "missing patients" with acute myocardial infarction (AMI) suitable for a timely percutaneous coronary intervention (PCI).[1] We aimed to investigate the impact of COVID-19 pandemic on PCI in AMI (ST elevation + non ST elevation MIs) in a hospital included in the national primary PCI network and dedicated for COVID-19 patients from Mar 2020.

**Patients and Methods**: We compared numbers, characteristics and outcomes of patients presenting with AMI and receiving timely percutaneous intervention in our hospital between two periods: Jan 2019 – Jan 2020 ("pre-COVID-19" era) and Mar 2020 – Dec 2020 ("COVID-19" era - 9 months period with mixed hospital organization: 4 months dedicated COVID-19 only hospital, and 5 months both non-COVID-19 and COVID-19 hospital).

**Results**: In the pre-COVID-19 era we performed 434 PCIs in 505 patients with AMI who received urgent/early coronary angiography after admission (average monthly number of AMI suitable for revascularization: 42 patients), with in-hospital mortality of 3.7%. During the COVID-19 era there were 137 PCIs in 186 patients with AMI and urgent/early coronary angiography (average monthly number of AMI suitable for revascularization: 18 patients), with in-hospital mortality of 8%. During the COVID-19 era, there were 14 COVID-19 positive patients with acute AMI who underwent urgent angiography (8 received PCI and 6 were treated conservatively) and had in-hospital mortality of 28%.

**Conclusion**: We found an astonishing 40% reduction in monthly rates of patients with AMI suitable for revascularization presenting to our hospital during the COVID-19 pandemic. AMI patients that were treated with PCI during the pandemic era had significantly higher mortality, mostly influenced by a very high mortality rate of COVID-19 positive patients presenting with AMI. Comprehensive analysis of national primary PCI network organization and patient awareness of AMI during COVID-19 pandemic in Croatia is warranted.

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**LITERATURE**

1. Ruparelia N, Panoulas V. The missing acute coronary syndromes in the COVID-19 era. Ther Adv Cardiovasc Dis. 2020 Jan-Dec;14:1753944720977732. https://doi.org/10.1177/1753944720977732