

## Impact of coronavirus disease 19 (COVID 19) pandemic on acute coronary syndrome (ACS) hospitalizations, and related invasive procedures

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**Funding Acknowledgements:** Type of funding sources: None.

**Background:** Reports from countries affected by the COVID 19 pandemic demonstrate a reduction in ACS hospitalizations and invasive procedures.

**Purpose:** We aimed to investigate the impact of the COVID 19 pandemic on ACS patient hospitalizations and related invasive procedures in a country with low COVID 19 incidence and without changes in Cardiology hospital services.

**Methods:** We conducted a retrograde study collecting data for ACS hospitalizations including ST elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (NSTEMI) and unstable angina (UA) and related invasive and revascularization procedures from March 9th 2020 (first COVID 19 case in our country) to April 30th (period of total lockdown) compared with the same period of 2019 in our center.

**Results:** Hospital admissions for ACS declined during 2020 (COVID 19 period) from a total of 550 patients in 2019 to 321 patients hospitalization in 2020 representing a 41.6% reduction ( $p < 0.001$ ). The reduction was observed for all types of ACS, the greatest reduction was for UA 58% ( $p < 0.001$ ) followed by NSTEMI 32% ( $p < 0.001$ ) and for STEMI 28% reduction ( $p < 0.009$ ). Compared to 2019 the proportion of patients presented with STEMI was higher in 2020 (48.6% vs 39.5%  $p = 0.01$ ) and lower with UA (43.3% vs 31.5%  $p = 0.0002$ )

Reduction was observed also in coronary angiography by 43% ( $p < 0.001$ ) and in percutaneous coronary interventions with 42% ( $p < 0.001$ ). Compared to 2019 the proportion of patients with 3 vessels coronary disease (CAD) and left main (LM) was higher during COVID 19 pandemic, respectively 33% vs 40%  $p = 0.032$  and 8% vs 13%  $p = 0.046$

**Conclusions:** Hospitalizations and related invasive procedures for ACS significantly dropped during COVID 19 pandemic. Patients admitted to hospital during pandemic presented more with STEMI and had more 3 vessels CAD and LM. Measures should be taken to ensure patients for the safety of health services and encouraged not to neglect cardiac consultations and treatments.