

## Acute coronary syndrome in COVID-19 times: could it be business as usual?

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**Background:** In an attempt to cope with the COVID-19 pandemic, several measures of social distancing and reorganization of health care systems have been adopted. In Portugal, these included suspending elective clinical activity and a temporary national lockdown. Data from multiple centres, including central hospitals in Portugal, has shown a reduction in hospital admissions for acute coronary syndrome (ACS) during the COVID-19 outbreak. Fear of going to the hospital and physical inactivity have been pointed as possible explanations.

**Purpose:** to assess the impact of this pandemic and the measures taken against it on the pattern of admissions and treatment of patients with ACS in a district hospital.

**Methods:** A single-centre retrospective study was conducted in the Cardiology Department of a Portuguese district hospital, capable of performing 24h percutaneous coronary intervention. We analyzed the admissions for ACS during the peak of the first COVID-19 outbreak in Portugal (16th of March to 3rd of May 2020, coinciding with the suspension of elective activity) and compared it with two control periods: one immediately preceding the study period (27th of January to 15th of March - 2020 control) and one exactly one year before (16th of March to 3rd of May 2019 - 2019 control).

**Results:** During the 7 weeks of the first COVID-19 outbreak, 46 patients were hospitalized for ACS in our department, while 54 had been admitted during the 2020 control period and 40 in the 2019 control period, with a mean of 7 admissions/week (vs 8 and 6, respectively;  $p > 0.05$ ). There were no significant differences between the study group and both controls regarding basal characteristics. Their presentation did not differ: the majority of patients (57%) was admitted for ST-elevation myocardial infarction and median time from symptom onset to admission to the emergency room was 3 hours, with 4% of patients presenting in Killip class  $\geq$ III ( $p > 0.05$  for all). We also found no significant differences in the treatment administered nor in the outcomes (96% submitted to coronary angiography, median length of hospitalization of 4 days and in-hospital mortality rate of 2%,  $p > 0.05$  for all).

**Conclusions:** Our study suggests that the reduction in admissions for ACS during the COVID-19 outbreak is not universal. Additionally, severity at presentation, treatment administered and outcomes did not seem to differ. The relatively low prevalence of COVID-19 in our hospital's region might be the cause, since people might fear and refrain less from going to the hospital. Larger studies with other centres in low-prevalence regions are needed to confirm this hypothesis.

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