Stay focused: watch out for myocardial infarction even at the time of Covid-19

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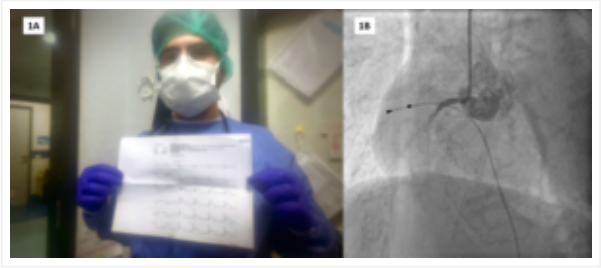
A 65-year old man presented to the emergency department with a 12-hour history of chest pain, dizziness, and nausea. ECG – as displayed by the cardiology fellow in the picture (Figure 1A) – showed an ST-elevation inferolateral myocardial infarction and the patient was promptly transferred to the cath-lab for percutaneous coronary intervention (PCI). The coronary angiography revealed a monovascular disease with a thrombotic occlusion of the proximal segment of the right coronary artery (culprit lesion) (Figure 1B). A primary PCI was performed without procedural complications and with optimal angiographic results.



A blurry picture, taken from a cellular phone wrapped in a plastic bag to avoid coronavirus contamination, shows a cardiology fellow exhibiting an acute myocardial infarction ECG (1A). Urgent coronary angiography showed a thrombotic right coronary artery occlusion (1B).

I took this photograph with my personal cell phone during a recent night shift in the emergency department. It appears blurry because the phone was contained in a transparent plastic bag, to avoid coronavirus contamination.

Italy has been particularly hit by the current coronavirus pandemic; to date 215,665 cases have been confirmed with 28,274 associated deaths (1). Lombardy, in northern Italy, is one of the regions most affected worldwide (2). In our tertiary referral center for heart diseases in Northern Italy, entire departments have been turned into "Covid-19 Units", where healthcare professionals are daily involved in supporting critically ill

ts. All elective activities have been suspended and dedicated in-hospital "pathways" have been created

:r to continue to take care of cardiovascular emergencies (i.e. acute coronary syndromes (ACS), acute

heart failure, urgent cardiovascular surgery). Indeed, on the background of the pandemic, cardiovascular diseases still occur frequently in the general population. Even if Covid-19 has been related with previous cardiovascular comorbidities and in-hospital complications (3,4), a significant decline in the number of patients admitted due to ACS has been reported (5). In northern Italy, a reduction up to 50% in hospital admissions for acute myocardial infarction was observed in the last weeks (6) due to patients' fear of getting viral infection at the hospital and possible increase in emergency response time. The question of how many ACS patients died before reaching the hospital will remain unanswered. Furthermore, as in our case, many patients with myocardial infarction arrive in the emergency room after several hours of chest pain, far from the known "golden hour" recommended by the guidelines for early intervention.

For this reason, a possible post-Covid-19 heart failure emergency might be expected since all the patients with chronic heart failure and non-revascularised myocardial infarction will finally come to the hospital with acute decompensation. Heart failure departments should be prepared with dedicated areas for non Covid-19 patients ready to treat acute cardiovascular conditions.

On the other hand, being on the front line, healthcare professionals are particularly exposed to Covid-19 infections. To date, in Italy more than 150 physicians have died and 24,358 healthcare workers have been infected, accounting for 11.3% of the total cases (1). This underlines the importance of personal protective equipment (PPE) to avoid in-hospital contagion. Although fundamental, the need to wear PPE and to reduce personal contacts as much as possible, is likely to increase the distance between doctors and patients. Focusing on safety procedures, physicians have less time to spend at the bedside with patients in order to collect medical history, communicate clinical decision and look for the more nuanced signs of the diseases. Furthermore, due to the country lockdown, discussing patients' conditions with family members is only possible on the phone, and medical records of previous examinations or admissions are often unavailable.

Even with all these difficulties, working during a pandemic behind a protective mask, "focusing" on our usual duties can save our cardiovascular patients' lives, especially in the more acute settings.

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His main clinical and research interests are heart failure, cardiopulmonary pathophysiology, echocardiography. He is currently involved in several research projects in the field of heart failure.

Since March of this year, like many other colleagues at his hospital, he is involved in the treatment of COVID-19 patients.

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