Delayed Management of a Myocardial Infarction Due to the Outbreak Coronavirus COVID-19

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Abstract
We report a case of a patient suffering chest pain with finally myocardial infarction diagnosis. His medical care was delayed because of the COVID-19 outbreak that disrupted health care systems. We discuss the importance to maintain access to quality emergency care for patients.

Introduction
Infection with COVID-19 has spread worldwide very quickly, as noticed the World Health Organization [1]. During this dramatic pandemic disease, some countries have to face logistic and human difficulties in medical management, especially in medical care for a vital pathology. We report a case of a myocardial infarction with delay in its medical treatment.

Case presentation
In early April 2020, a 51-year-old man with no medical history called the Emergency Medical Service (EMS) for chest pain. Given no obvious severity on telephone assessment and the COVID-19 outbreak, the man was advised to remain confined at home and recall in case of respiratory worsening or fever poorly tolerated. The next day, the patient called again EMS for increased chest pain, so an Emergency Physician (EP) went at home. The electrocardiogram (ECG) showed ischemic signs with a negative T-wave in V3V4V5, a ST elevation and a significant Q-wave in D2D3aVf, related to an inferior myocardial infarction (Figure 1). Emergency coronaryography highlighted a proximal stenosis and a thrombotic distal occlusion of the right coronary artery (Figure 2).

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Figure 1: Electrocardiogram: ↓ St elevation ← Significant Q-wave ↑ Negative T-wave.

Figure 2: Coronarygraphy: - - - Proximal stenosis of the right coronary artery ← Thrombotic distal occlusion of the right coronary artery.

Discussion

Infection with SARS-Cov-2 or COVID-19 coronavirus is a pandemic disease. All health care systems have been affected, especially in countries where the outbreak has claimed many victims [2,3]. In Italy at the height of the health crisis, pediatric EPs have noted a decrease of consultations in pediatric emergency departments (ED) for non-COVID-19 reasons. This decrease was due, firstly to the parents' fear of taking their child to an ED where there are COVID-19 cases inside, and secondly to some overwhelmed EDs that could no longer take care of other patients. This could sometimes lead to dramatic consequences [4]. In France, as of 08 April 2020, there were more than 80,000 victims of COVID-19 [5]. EMS received a considerable number of calls from people for symptoms of COVID-19, which caused congestion and risk of disruption of these services [6]. In France, in case of a phone call to the EMS for symptoms evoking an acute myocardial infarction (AMI), a medical ambulance with an EP comes to the patient’s home, and in case of a confirmed diagnosis of AMI on ECG, the patient is immediately transferred to a coronary care unit within 120 minutes as recommended in guidelines [7]. The clinical case reported here highlighted a delay in diagnosis and treatment of a AMI. This delay may have been linked to the spectacular COVID-19 outbreak, and considered a collateral damage. This delay threatened the patient’s vital and functional prognosis, considering that morbi-mortality of AMI is directly proportional to the ischaemic time duration [8].

Conclusion

The COVID-19 pandemic has disrupted health care systems, and overwhelmed medical care for life-saving emergencies. During a health crisis of this magnitude, it is essential to strengthen the EMS to ensure their role in the management of vital emergencies such as AMI, which engages the vital prognosis of victims of this pathology.

References

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