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Earthquake: Syria/Turkey: 'Management of Acute Coronary Syndromes After the February 6 Kahramanmaraş Earthquake'

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Introduction

The earthquake on February 6 was a large-scale earthquake that caused destruction in many cities and led to significant disruptions in health-care services. The collapse of buildings providing health-care services was a major reason for the disruptions. One of the critically affected units was the coronary angiography unit. Some planning was required to provide maximum benefit to acute coronary syndromes (ACS) with limited resources.

Discussion

Despite being the city most affected by the earthquake, the building of Dörtyol State Hospital did not sustain damage during the earthquake, and health-care services continued uninterrupted. Although there was only one device in this facility, the coronary angiography unit continued to operate without interruption. It is known that disasters lead to a significant increase in ACS due to effects such as sympathetic discharge and poor living conditions.¹ After the earthquake, cases of ACS at young ages were very common. Spontaneous coronary dissection and coronary vasospasm were common among youth with emotional stress. This situation is evidence of the intensity of emotional stress. Therefore, it is very important to provide psychological support, especially when the risk to the cardiovascular system is high.

We also observed a substantial increase in acute coronary syndrome patients in our unit following the earthquake. In this increase, we notably realized the importance of deferred percutaneous coronary intervention (PCI).

Especially in ST-elevation myocardial infarction (STEMI), door-to-balloon time is crucial. Therefore, STEMI patients are the priority for PCI. The earthquake caused significant disruptions and delays in the emergency referral chain. To intervene in more STEMI cases in time-limited situations, "deferred PCI" was performed on suitable patients. Since this method provides a short procedure time, it provides timely intervention to more STEMI cases. In the deferred PCI method, after minimal contact balloon angioplasty on the ischemia-related artery, parenteral antithrombotic treatment is administered in the intensive care unit. Stenting is performed 12–48 hours later. This approach prevents microvascular obstruction and preserves left ventricular ejection fraction.² Following the earthquake and its aftermath, especially in patients requiring longer procedure times, providing timely intervention to more patients was made possible by implementing "deferred PCI." Stenting procedures were performed during times when applications for STEMI were low. In the case of a future earthquake, ensuring distal coronary flow in more patients within a limited timeframe is only possible with this model.

Conclusions

We believe that the "deferred PCI" method can provide the most benefit to the highest number of patients in disaster situations with increased patient numbers and inappropriate conditions. Establishing a "management guideline for acute coronary syndromes in natural disasters" and identifying patients suitable for "deferred PCI" are important for the management of ACS patients during disasters. In cases of an earthquake, it should be determined in advance how and in which health center the angiography service will be provided and where the second center will be in case the health center is destroyed.

Some precautions need to be taken to prevent sudden cardiac deaths after earthquakes. Some of the precautions are as follows:

- 1) Constructing the patient transfer system from the earthquake zone directly to centers with angiography
- 2) Establishment of mobile angiography units
- 3) Storage of necessary thrombolytic drugs at many points
- 4) Elimination of the effects of stress on CVS
- 5) Planning the PCI strategy according to the conditions of the earthquake region.

References

1. **Bazoukis G, Tse G, Naka KK**, et al. Impact of major earthquakes on the incidence of acute coronary syndromes—a systematic review of the literature. *Hellenic J Cardiol.* 2018;**59**(5):262–267.
2. **Carrick D, Oldroyd KG, McEntegart M**, et al. A randomized trial of deferred stenting versus immediate stenting to prevent no- or slow-reflow in acute ST-segment elevation myocardial infarction (DEFER-STEMI). *J Am Coll Cardiol.* 2014;**63**(20):2088–2098. doi:[10.1016/j.jacc.2014.02.530](https://doi.org/10.1016/j.jacc.2014.02.530)