Emergency Care for Acute Myocardial Infarction in Disasters
– Lesson From the Great East Japan Earthquake –
Hideki Ishii, MD, PhD; Takashi Yamamoto, MD; Toyoaki Murohara, MD, PhD

A n association between huge disasters and the incidence of cardiovascular diseases has been previously evaluated. Immediately after the onset of a huge disaster, many patients may not be delivered to hospitals because of the confusion and traffic chaos. Furthermore, there may be many patients with traumatic injury in hospital. Therefore, in such situations, it is particularly important for patients suffering from acute myocardial infarction (AMI) to reduce the treatment delay, including patient and transportation delays to the hospital as well as the door-to-balloon time.

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How did the Great East Japan Earthquake on March 11, 2011 affect the emergency care system of AMI? In this issue of the Journal, Hao et al report that the time from onset to admission was significantly shorter and the performance rate of primary PCI was significantly higher in 2011, compared with the previous 3 years, and they emphasize the importance of efforts to minimize patient delay and the chain of survival of AMI. A recent report suggests that short onset-to-balloon time is more important than the door-to-balloon time. Indeed, even immediately after the earthquake, short total ischemic time was associated with lower in-hospital mortality rate in AMI patients (Figure). It is noteworthy that doctors in Miyagi prefecture as well as other Tohoku areas did their best in such a serious situation. Also, we have to remember the proverb “Keep something for a rainy day!” and prepare the emergency medical systems for disasters.

One of the important findings is that the incidence of AMI did not significantly increase after the Great East Japan Earthquake, although it increased the onset of several cardiovascular diseases thereafter. The authors speculate that the type of earthquake and the time when natural disasters occur can affect the results. It has been controversial whether severe earthquakes affect the onset of AMI. The results of clinical studies in 5 recent huge earthquakes are inconsistent: 3 studies showed an increase in the risk of AMI following the disasters, but the other 2 could

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Department of Cardiology, Nagoya University Graduate School of Medicine, Nagoya, Japan
Mailing address: Hideki Ishii, MD, PhD, Department of Cardiology, Nagoya University Graduate School of Medicine, 65 Tsurumai-cho, Showa-ku, Nagoya 466-8550, Japan. E-mail: hkishii@med.nagoya-u.ac.jp
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not confirm an increase.\textsuperscript{5–8} The timing of the Great East Japan Earthquake, which was 2:46 pm, might lessened its effect on the incidence of AMI. Unfortunately, cases of prehospital death from AMI or patients who died from AMI-related cardiopulmonary arrest were not included in the study. In addition, AMI patients who were swallowed up by the tsunami could not be included in the data. Because many AMI patients die within 1 h, mainly from fatal arrhythmia,\textsuperscript{9} these limitations should be considered when interpreting the study.

Moreover, the report shows us the importance of a large registry of patients with AMI. To date, the Japanese AMI registries such as OACIS, KACE, NAMIS, and JACSS have provide much important data,\textsuperscript{10–13} but to learn the trends in AMI, patients’ prognosis, and to assess the appropriateness of clinical treatments, construction of a large ‘all Japan’ database of patients with AMI is needed.

\textbf{References}


