

EDITOR'S PAGE

“If You Have a Heart Attack, Just Cough”

Fascinating things show up in our e-mail everyday and perhaps some of you got the one I received this morning. A nicely animated set of slides posed the question: “What do you do if you are driving and suddenly begin to feel a heart attack coming on?” After considering whether you should continue to drive to the hospital or what else to do, the solution given is that you should begin repetitive coughing. This advice is followed by the usual self-help admonition to forward the e-mail to all your friends who may indeed be having a heart attack. The part about this “possibly” being helpful for a cardiac arrest in the few seconds before totally losing consciousness is not covered very well in the e-mail, but it did remind me how unprepared we are in the U.S. to deal with a common problem that we know so much about.

This issue of *JACC: Cardiovascular Interventions* is focused on approaches to ST-segment elevation myocardial infarction (MI) that should cause continued reflection about the sorry state of affairs regarding systems of care for this devastating but not uncommon event. Approximately 8 years ago a group of us in Atlanta got together to advocate for a system for reducing the time from onset of systems of acute MI to reperfusion therapy. Five hospitals and the local heart association banded together to provide funding for an educational process for emergency medical personnel and to enable teletransmission of electrocardiograms from the field. Each of the 5 competing hospitals cooperated and public education programs were carried out to try to inform the public of the advantages of in-field identification of infarction and rapid transfer to the nearest hospital with percutaneous coronary intervention (PCI) capabilities for immediate definitive therapy. The analogy was the boarding pass obtained prior to check-in at the airport. With this, the patient can be assured a rapid transfer through the emergency department straight to the catheterization laboratory and the earliest possible interruption of the infarction. Some of the early efforts of that system and 9 others were reported in this journal (1) and articles in this issue point to systems, largely developed in Europe, that attempt to reduce ischemic time as much as possible. Implementation of door-to-balloon time as a core measure has stimulated hospitals to dramatically improve that metric but there is no national metric regarding reduction of the overall ischemic time. There are a number of limitations to achieving optimal care including the very diverse number of emergency medical services, many of which are underfunded and under trained. It is not surprising that the public remains confused about how to approach care for symptoms that might reflect acute MI. New York City has a unified dispatch for its 9/11 system through the New York Fire Department and this has provided an opportunity to try to integrate in-the-field transmission and directed transfer to PCI-capable hospitals. There are many attempts at the local level to achieve some system that will improve symptom-to-intervention time but to see truly effective systems we have to move to the countries outside the U.S. where national health systems have enabled an organized approach. That approach might take different forms as pointed out in some of the articles in this focused issue. Although facilitated angioplasty, as originally envisioned, has received a bad name, the concept of early thrombolysis for patients who face a significant delay to PCI is still worthy of careful investigation. Three articles in this issue raise the question of whether pre-hospital thrombolysis should be revisited in certain patients with certain presentations.

The efforts of the American College of Cardiology door-to-balloon initiative and the American Heart Association Mission Lifeline are very important in focusing attention on the problem and in providing general principles for the approach to ST-segment elevation MI.



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Hospitals are encouraged to adopt these principles but hospitals are competitive institutions and patients who begin to suffer these symptoms have no idea of how to access a specific hospital's approach. A sudden onset of an acute MI is a public health issue that requires a public health approach in order to be reasonably addressed. Are resources being committed to investigation and improvement of our symptom-to-treatment time in order to abort infarctions? Many new trials are ongoing involving pharmacologic agents mostly sponsored by industry. There are trials of pre- and post-conditioning and systemic cooling and other ways to mitigate the impact of acute MI, but the ultimate therapy which is rapid reperfusion in order to abort or dramatically reduce the size of the MI is receiving much less support.

What would it take to develop an integrated system of care that could be presented to the public in a way that would ensure a sensible response to the onset of sustained myocardial ischemic symptoms? Yes, we are a diverse country with many local situations that dictate variation in care; however, we do have national public health initiatives for conditions that are less common and less fatal.

There is, as I consider it, good news and bad news. The good news is that the frequency of ST-segment elevation MI seems to be decreasing across the country. Much of this I believe is due to the aggressive primary

and secondary preventive measures and the surgical and interventional management of coronary artery disease. The bad news is also that ST-segment elevation MI frequency is decreasing because the resources needed to mount a major public health approach to managing patients wanes as the number of cases decreases. As long as the responsibility for educating the public relies on each individual hospital to teach its own patients how to care for the onset of acute MI symptoms we will not achieve our goals. Mass media instruction coupled with adequate support of emergency medical systems will be required. An integrated public health approach to the onset of symptoms of acute MI is needed. The public needs to understand more than "just cough."

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