Panel: Care After Cardiac Arrest Needs Upgrade

BY MITCHEL L. ZOLER

An expert panel convened by the American Heart Association issued a call to action for the creation of U.S. regional systems of care for patients resuscitated from out-of-hospital cardiac arrest.

"We believe that the time has come for a call to develop and implement standards for regional systems of care for those with restoration of circulation after OOHCA [out-of-hospital cardiac arrest]," wrote the 19-member panel convened by the American Heart Association, the American College of Emergency Physicians, and the National Association of State EMS Officials.

"Successful implementation and maintenance of cardiac resuscitation systems of care would have a significant and important impact on the third-leading cause of death in the United States. The time to implement these systems of care is now," the panel said in its statement (Circulation 2010 Jan. 14 [doi:10.1161/CIR.0b013e3181cdb7db]).

"It will take action by the American Heart Association, which endorsed the statement, as well as by the other organizations that endorsed this, to work together to make sure this happens," Dr. Graham Nichol, chairman of the panel, said in an interview. "There is pent-up demand [among physicians] to help these patients, and it is already happening in some places" in the United States, said Dr. Nichol, professor of medicine at the University of Washington in Seattle.

"The trauma system of care is a good model," Dr. Nichol said. "Prehospital providers, trauma surgeons, and emergency doctors worked together for many years to create a certification process. That's the model we're advocating for."

OOHCA affects an estimated 300,000 Americans annually, and is the third-leading cause of U.S. deaths. The panel cited a fivefold regional variation in the outcome of OOHCA patients treated by emergency medical services among sites in the Resuscitation Outcomes Consortium. This regional variation "demonstrates that it is a treatable condition," said Dr. Nichol, who is also director and chair of the Medic One Foundation of the Harborview Center for Prehospital Emergency Care in Seattle.

Regional systems of care for these patients exist in a few locations, including Seattle, the state of Arizona, and areas of Minnesota, New York, Ohio, Texas, and Virginia. In Seattle, the survival-to-hospital-discharge rate among OOHCA patients is 16% for patients with any type of initial rhythm disturbance, and 40% among patients with ventricular fibrillation. For North America overall, the median survival rate is 8%.

Proven, effective interventions for OOHCA patients include therapeutic hypothermia, early percutaneous coronary intervention, early prognostication of patient outcomes, and use of implantable cardioverter defibrillators. Promising interventions that require special expertise to ensure their successful use include glucose control, seizure control, cardiopulmonary support, and hemofiltration, the statement said.

The proposal envisions three levels of care within a regional system: emergency medical services, level 2 cardiac resuscitation centers, and level 1 cardiac resuscitation centers. Level 1 centers would have the capability to perform primary percutaneous coronary interventions, electrophysiology testing, and placement of implantable cardioverter-defibrillators; assess prognosis; provide all services 24/7; and treat at least 40 patients resuscitated from OOHCA annually. Level 2 centers would not have these features and services, but would be capable of initiating hypothermia and providing CPR and advanced cardiac life support training for staff. In addition, they would be mandated to quickly transport patients to a level 1 facility.

Both level 1 and 2 centers as well as emergency medical services would receive external certification.

Starting such a regional system of coordinated care for OOHCA patients will take "a large group of individuals from different specialties to come together," Dr. Nichol said. The stakeholders who need to be involved in creating these systems include emergency medical services

physicians, emergency physicians, cardiologists, and critical care physicians, as well as nurses and medics.

"Each community likely needs a local champion who can implement and maintain a culture of change to achieve broad and sustained improvement in outcomes. But one person cannot do this alone," he added. ■

Disclosures: *Dr. Nichol reported relationships with Laerdal Inc., Physio-Control Inc., and Channing Bele Inc. Other members of the panel reported a variety of commercial relationships.*

MY TAKE

ICUs Could End Up Treating More Cardiac Arrest Survivors

It's reasonable to expect that regional systems of care, which have improved the outcomes of trauma and stroke patients, also could produce benefits for cardiac arrest patients. The cardiac arrest system could be built on top of the existing trauma and stroke regional systems. Several elements that the AHA calls for in level 1 cardiac arrest centers, such as 24/7 availability of percutaneous coronary intervention and electrophysiology services, are already in place at level 1 trauma centers. But most trauma and stroke centers lack the capability to deliver therapeutic hypothermia.

For hospitalists, the potential impact from improved cardiac arrest care would occur downstream, as more cardiac arrest patients survive their acute episode and require intensive care during their recovery.

DR. ALPESH AMIN, *professor and chairman of medicine at the University of California, Irvine, and executive director of its hospitalist program, reported no relevant disclosures.*