

Hypothermia remains effective in cardiac arrest patients with preexisting cardiomyopathy

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Cardiomyopathy is common among cardiac arrest survivors. The survival and neuroprotective benefits of therapeutic hypothermia is similar in patients with preexisting cardiomyopathy, compared with those patients without cardiomyopathy, according to a scientific poster being presented Nov. 14 at the at the American Heart Association (AHA) scientific sessions in Orlando, Fla. Therefore, the researchers recommended the use of therapeutic hypothermia in patients with the preexisting condition.

"While it is well established that therapeutic hypothermia is neuroprotective and increases survival in resuscitated [cardiac arrest](#) patients without [cardiomyopathy](#), we sought to determine whether catastrophic outcomes in cardiac arrest patients with preexisting cardiomyopathy are avoidable," said Michael R. Mooney, MD, a [cardiologist](#) at the Minneapolis Heart Institute® at Abbott Northwestern Hospital in Minneapolis and physician researcher with Minneapolis Heart Institute Foundation.

From February 2006 to July 2010, Mooney and his colleagues enrolled 192 consecutive cardiac arrest patients who remained unresponsive following return of spontaneous circulation in a therapeutic hypothermia protocol, regardless of initial rhythm, hemodynamic status or prior medical history. They hypothesized that there would be a high prevalence of preexisting cardiomyopathy in this patient population, and

therapeutic [hypothermia](#) would confer similar neurologic and survival benefit compared to non-cardiomyopathy patients.

Of the 192 patients, 43.8 percent had preexisting cardiomyopathy, of which ischemic was the most common type (41.7 percent). Patients with preexisting cardiomyopathy were older (65.7 years vs. 61.7 years) and more likely to be male (83.3 vs. 63.9 percent).

The majority presented in ventricular fibrillation/ventricular tachycardia (75 percent and 70.4 percent) in both the cardiomyopathy and non-cardiomyopathy groups. There was a higher prevalence of concurrent STEMI in the cardiomyopathy group (27 vs. 18.5 percent), which was not statistically significant. Cardiogenic shock was more prevalent in the cardiomyopathy group (54.8 vs. 28.7 percent).

While the cardiomyopathy groups were slightly higher, the survival between the two groups (52.4 vs. 51.9 percent) and survival with favorable neurologic outcome, defined by Cerebral Performance Category 1 or 2, (46.4 vs. 49.1 percent), were similar. They found that [survival](#) with favorable neurologic outcome in cardiomyopathy patients with cardiogenic shock was 34.8 percent, compared with 45.2 percent in non-cardiomyopathy cardiogenic shock patients.

"The incidence of preexisting heart dysfunction in this observational study is alarming. In general, we need to employ a more careful surveillance and improve our adherence to the clinical guidelines, as less than 50 percent of patients who currently qualify for automatic implantable cardioverter-defibrillators actually receive them," Mooney said. "A great deal more research is warranted in assessing this patient population."

Provided by Minneapolis Heart Institute Foundation

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