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Elderly patients can benefit from selective use of early revascularization

Data suggest age alone should not prevent more aggressive care

The elderly represent a growing proportion of patients presenting with acute myocardial infarction (MI) complicated by cardiogenic shock (CS). CS occurs when the heart fails to supply enough blood to the organs of the body, and remains the most common cause of death after heart attack among people 75 years of age and older. Proper selection of older patients for invasive management of heart disease remains a serious medical challenge, especially as the elderly are frequently underrepresented in or excluded from clinical trials.

In a study published in the February 2009 issue of *JACC: Cardiovascular Interventions*, researchers found the one-year survival of elderly patients (age \geq 75 years) with acute MI complicated by CS undergoing percutaneous coronary intervention (PCI) using contemporary techniques was comparable with survival of younger patients.

"Elderly patients who are admitted to the hospital with massive heart attacks may still benefit from emergency coronary artery balloon angioplasty and stenting, despite their advanced age," says David Clark, M.B.B.S., F.R.A.C.P., senior author of the study and interventional cardiologist at Austin Hospital, Melbourne, Australia. "Although mortality occurs in roughly half of patients in these high risk situations, without this aggressive treatment, the prospect of survival is very poor."

Researchers analyzed baseline characteristics (e.g., smoking status, blood pressure, previous MI, renal function and symptom onset) and clinical outcomes, including death and emergence of other complications, in 143 consecutive patients from the Melbourne Interventional Group registry between 2004 and 2007. Elderly patients (n=45) were more likely to be female and have hypertension, previous MI, renal failure and multi-vessel coronary artery disease. Data indicated no significant differences for in-hospital, 30-day and one-year mortality in the elderly versus the younger groups.

CS is a very complicated illness to manage, often requiring timely and very specialized care. Patients typically spend significant time in intensive care, which often necessitates considerable human and financial resources. So, while outcomes data show that early revascularization can improve survival among elderly patients, other clinical factors—proper patient selection, the "physiological age" and prior condition of the patient (e.g., prior functional status, co-morbidities such as dementia and frailty) and a cost-benefit analysis of therapies—need to be considered by cardiologists.

"A patient's age in and of itself should not be used to deny someone more aggressive, invasive care with angioplasty for cardiogenic shock," says Judith S. Hochman, M.D., F.A.C.C., F.A.H.A., Harold Snyder Family Professor of Cardiology and director of the Cardiovascular Clinical Research Center, New York University School of Medicine.

"Having said that, we need to better understand and standardize criteria to improve selection of older patients who are likely to benefit. For example, as shown in this study, better kidney function clearly is a useful indicator that a patient will do well. What we don't want is to subject patients to uncomfortable, unnecessary procedures if they will not derive a benefit in terms of quality of life or life prolongation."

The elderly in particular are at increased risk for other complications. Authors add that further investigation of the selective use of early revascularization among this patient population is needed.

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