Acute coronary syndrome (ACS) remains among the leading causes of mortality worldwide. Older age and kidney dysfunction have been strongly associated with poor outcomes in patients with ACSs. The actuarial survival at 75 years in the United States is estimated to be 86.8 years, with some estimates predicting a 40% increase in population living beyond 80 years by the year 2040. Kidney dysfunction (estimated glomerular filtration rate [eGFR] <60 mL/min per 1.73 m²) increases with age, with an estimated prevalence of nearly 50% in adults >80 years of age. Although nearly a third of patients admitted with acute myocardial infarction (MI) and two thirds dying from MI are >75 years of age, <10% of patients in ACS trials reported are ≥75 years of age, with patients >85 years of age making up only 2% of trial populations. Current studies on the management of ACS in elderly patients are limited to small underpowered trials. Therefore, on the basis of the existing data, it is hard to draw robust conclusions about the management decisions in this complex group of patients. In this issue of the Journal of the American Heart Association (JAHA), Holzmann and Siddiqui retrospectively compared outcomes in 12,821 patients >80 years of age with concomitant chronic kidney disease (CKD) presenting with non–ST-segment–elevation (NSTE) ACS undergoing percutaneous coronary intervention (PCI) with their medically treated counterparts, using data from the SWEDHEART (Swedish Web-System for Enhancement and Development of Evidence-Based Care in Heart Disease Evaluated According to Recommended Therapies) registry. Given the relative paucity of data in this cohort, which is commonly encountered in clinical practice, these findings are both important and timely but need to be interpreted keeping the nonrandomized study design in mind.

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The 2014 American Heart Association/American College of Cardiology and the 2015 European Society of Cardiology guidelines for the management of patients with NSTE-ACS encouraged the consideration of an invasive strategy in elderly patients presenting with NSTE-ACS (class I and class IIa recommendations, respectively) while accounting for their comorbidities, frailty, life expectancy, and wishes. However, guideline recommendations do not always translate into clinical practice and are often delayed when they do. Holzmann and Siddiqui reported that coronary angiography during index hospitalization was performed in only 43% of patients, of whom nearly two thirds underwent PCI. In patients with eGFR 30 to 60 and 15 to <30 mL/min per 1.73 m², low rates of PCI were noted (22% and 10%, respectively). This “risk paradox” has also been seen in other registries, in which higher-risk patients are managed less intensely. Devlin et al reported a similar observation from...
GRACE (Global Registry of Acute Coronary Events), where only 33% of patients >80 years of age underwent coronary angiography and only 18% underwent PCI despite their high-risk status. Similar observations were reported from the Australian national ACS registry, with 49% of patients >75 years of age undergoing coronary angiography (compared with 70% of patients <75 years of age). In the CRUSADE (Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes With Early Implementation of the ACC/AHA [American College of Cardiology/American Heart Association] Guidelines) registry and Euroheart ACS survey, lower rates of coronary angiography and revascularization were noted in elderly patients. The proportions of patients undergoing coronary angiography and revascularization, reported by Holzmann and Siddiqui, are comparable to what has been observed in other registries and lend credence to their findings. The SWEDEHEART registry also builds on the existing knowledge base by bringing to light the important finding of low rates of revascularization in elderly patients with concomitant CKD, something that has not been specifically reported before. The appropriateness for not performing coronary angiography in individual patients is difficult to ascertain in SWEDEHEART registry, a registry of real-world practice. In general, registry patients tend to be sicker, with more comorbidities than those enrolled in clinical trials. The perceived bias on a lower chance of PCI success and higher complication rates in older adults exists, despite contemporary studies reporting a success rate comparable to that in younger population in elderly patients with acceptable complication rates. Therefore, this finding is of considerable importance as it highlights a disparity in health care and an opportunity for improvement.

In the current report, the authors noted a progressive increase in long-term mortality at a mean follow-up of 3.2 years as the eGFRs declined, from 42% in patients with eGFR >60 mL/min per 1.73 m² to 56% and 76% in patients with eGFR 30 to 60 and 15 to <30 mL/min per 1.73 m², respectively. This finding strengthens prior observations that elderly patients with worsening kidney function have worse outcomes after an ACS.13,14 The reduction in mortality with PCI revascularization was noted in elderly patients.13,14 The investigators encourage physicians to consider PCI in octogenarians with CKD, data on thrombotic strokes
and worsening renal function, especially rates of hemodialysis, should be also examined.

So, how would the current report influence the care of elderly ACS patients with CKD who present with NSTE-ACS in our practice? On the basis of the current study and prior evidence, older age and presence of CKD alone should not preclude revascularization, as many of these appropriately selected patients tend to benefit from an invasive strategy. However, other important factors, like cognitive impairment, comorbidities, frailty, and patient wishes, should be factored in. A multifaceted heart team approach, similar to what has been adopted for patients considered for transcatheter aortic valve replacement procedures, is reasonable and should include not only a clinical and an interventional cardiologist but possibly the patient’s primary care physician and a geriatrician.

**ARTICLE INFORMATION**

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**Disclosures**
None.

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