

Commentary: Patients older than age 65 years: Young or old for a ventricular assist device program? Is it time to restrict the indication for them?



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Congestive heart failure is a common pathology that increases with age. Medical treatment of patients with congestive heart failure offers limited survival and poor chance of functional recovery. Ventricular assist devices (VADs), mostly the last generation, may offer significant benefits in patients with refractory heart failure. Nevertheless, although heart transplantation (HT) has an acceptable long-term survival and represents the gold standard treatment for such patients, the number of HT procedures has not increased during the past decade. This is mostly due to the widespread belief of not exceeding the 65-years age threshold and the low pool of donors. Therefore, it appears that VAD therapy is becoming the standard approach for patients with refractory heart failure who are ineligible for HT. VAD implant presents a number of challenging decisions as well as technical challenges. Neurologic, renal, nutritional, and psychosocial assessments are of paramount importance before considering patients eligible for VAD implant. Can we include patients older than age 65 to 70 years in VAD therapy? If yes, can we extend the indication for VAD therapy to frail older patients? What criteria should patients meet to be defined as frail, because no standard definition for frailty exists? Lindvall and colleagues¹ report worthy results about the in-hospital mortality of a very large cohort of patients included in the National Inpatient Sample and who underwent VAD implant between 2010 and 2014. The authors stratified patients according the age; patients older than age 65 years were defined as older. More than 15,000 VAD implants were identified and among them more than 4000 were implanted in patients older than age 65 years. Compared with patients younger than age 65 years, older patients have a greater incidence of in-hospital mortality (29.4% vs 48.2%, respectively) associated with preoperative interventions, including extracorporeal membrane oxygenation support, prolonged ventilation, cardiac surgery, and hemodialysis. Furthermore, among patients older than age 65 years, the rate of HT dramatically decreases. It is likely that patients older than age 65 years represent those



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Central Message

Refractory heart failure patients may benefit from VAD implant. In older patients, severe comorbidities affect early outcome. Rigorous reflection is needed before we further restrict the age threshold.

See Article page 466.

with a greater index of frailty,² which may affect the indication for both VAD implant and HT. One more important message coming from the study by Lindvall and colleagues¹ is that among patients younger than age 65 years the number of VAD implants increases while the incidence of in-hospital mortality decreases, maybe because of evolving technologies and increased VAD team experience, although these factors were not analyzed in the study. Instead, in older patients, despite the increasing number of VAD implants, the in-hospital mortality does not reduce.

On the 1 hand, conflicting data about the early and midterm outcome for older patients undergoing VAD implant have been reported.³⁻⁶ On the other hand, older patients with a high grade of frailty,^{2,7} or assisted by extracorporeal membrane oxygenation before implant,⁸ or with advanced renal failure or hemodialysis^{6,9} experienced poor prognosis. Although the database of this study, as acknowledge by the authors,¹ is more of administrative than clinical nature and clinical and surgical data are not complete, a question arises: Should we further restrict the indication for VAD implant in patients older than age 65 years?

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