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Commentary: How to predict a harmonious relationship between patients and their left ventricular assist device?

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The evaluation of durable mechanical circulatory support (MCS) candidacy is critical for reaching the goal of acceptable long-term outcomes with the understanding that it is often an unfamiliar technology for patients.¹⁻³ Therefore, psychosocial assessment is essential for promoting synchrony in patient, carer, and provider expectations for a device with immense postoperative management implications. However, standardized assessment of complex psychosocial issues between programs and within institutional evaluators surrounding social support, psychological health, and financial resources has been challenging.

Stanford Integrated Psychosocial Assessment for Transplant (SIPAT) is an important tool developed and validated for use in solid organ transplantation.⁴ Olt and colleagues⁵ have now identified that aspects of SIPAT can serve as credible and accurate evaluation tools when applied to the left ventricular assist device (LVAD) population with analogous postprocedural management needs. Because the score was originally designed for the transplant population, it was not surprising that the total SIPAT score was not fully predictive for the primary outcomes of mortality or unplanned hospital readmissions. Of note, components related to poor living environment and social support were associated with device-related readmissions, whereas patient readiness was associated with both noncardiac and cardiac readmissions. Psychopathology elements were confirmed to predict both hemocompatibility and cardiac readmissions.

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CENTRAL MESSAGE

SIPAT score components seem useful in evaluating psychosocial support for LVAD candidacy. However, a focused LVAD psychosocial score may be more relevant given distinct challenges.

Although there are definite similarities with transplantation including continued treatment monitoring, there are also significant differences between transplantation and LVAD therapy. First, LVAD device management by the patient requires responding and interpreting device alarms (eg, low flow, component malfunction), which are unique and not a consideration in transplantation. Second, patients need to adhere to more stringent lifestyle limitations such as activities that introduce moisture to the exposed components (eg, driveline) as well as managing the inconvenience of attached external controller and battery components. Third, there is an element of “range anxiety,” which requires ready access to an electric supply. Durable MCS arguably places greater psychological, financial, and lifestyle demands compared with heart transplantation. Accordingly, it likely places greater strains on mental health, functional status, and support networks.

This contribution by Olt and colleagues⁵ is novel for its proof-of-concept implications for the future development of an LVAD-specific psychosocial assessment tool. This is particularly urgent with the foreseeable advances in MCS technology that will make LVADs applicable to an ever-expanding heart failure population with diverse psychosocial backgrounds. An ability to objectively identify patients who would or would not benefit long term from LVAD implantation because of psychosocial concerns is critical for patient welfare and prioritization of healthcare resources. Given individual variations in the human condition and understanding, care must be taken that psychosocial assessments focuses on the likely steady-state patient and carer responses to living with an LVAD rather than recording acute reactions to the situational stress of experiencing heart

failure, which may lead to misinterpretations of LVAD candidacy.

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