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EDITORIAL COMMENT

Cardiac Transplantation for Transgender Patients

It's Time to Implement Changes in Our Health Care Practice*

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About 1.6 million people in the United States identify themselves as transgender or gender diverse. Most of the transgender population are individuals under the age of 24 years.[1] Unfortunately, because of social stigma, this group is exposed to a number of emotional and psychological stressors early on during their adolescence. In 2017, a survey of transgender high school students reported increased violence, victimization, substance use, and suicide risk compared to their cisgender peers.[2] In addition, there is an increased prevalence of nicotine, alcohol, and drug use among transgender adults.[3] The situation is further complicated by an increasing incidence of mental health disorders[4] and the reluctance to pursue medical care because of interpersonal and environmental stigma.[5] As a result, the transgender community is at a higher risk for developing cardiovascular disease compared to the general population.[6] In addition, both transgender men and women are reported to have an increased rate of myocardial infarction compared with cisgender men and women.[7] As the transgender community continues to grow, the prevalence of cardiovascular disease and heart failure in this population is also expected to increase over time.

Cardiac transplantation is the standard of care for eligible stage D heart failure patients.[8] Despite the higher cardiovascular risk factor burden and prevalence of cardiovascular disease in the transgender population, there is a paucity of long-term outcome or mortality data regarding cardiac transplantation in transgender patients. Issues regarding pre- and postoperative hormonal management and the attendant risks of these therapies before and after cardiac transplantation have been largely unexplored.

In this issue of *JACC: Case Reports*, Lee et al[9] describe a rare case of dual organ cardiac and renal transplantation in a transgender woman. In their report, the authors highlight the challenges encountered in patient management and share their strategies. The most important learning point from this case is to prioritize patients' needs and to tailor medical management according to their preferences and values. True shared decision making is illustrated in discussions had with the patient around perioperative and long-term risks and benefits associated with hormonal therapies. Great care was taken to ensure that the patient felt safe and respected. The authors clearly illustrate the importance of collaboration among many different specialties on a multidisciplinary team to identify and address all possible issues and to improve overall patient outcome. The beautiful figure in their paper stresses the importance of using inclusive speech, understanding gender-affirming therapies, improving care across clinical environments, and promoting team-based care.

Management of end-stage heart disease in transgender patients could potentially be the next major challenge for the heart failure community in the coming years. To better prepare ourselves, we must implement strategies within our practices that will cater specifically to the needs of transgender heart failure patients. One of the concerns for such patients is possible unwillingness to pursue health care because of existing stigma in clinical settings.

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FIGURE 1 Cardiac Transplantation Considerations in Transgender Patients With End-Stage Heart Failure

Pretransplantation considerations	Post transplant care
• Reluctance to pursue health care • Increased prevalence of mental health, nicotine and drug use • HIV infection, hepatitis infection, increased cancer risk • Hormone replacement therapy and its associated complications • Patient preferences and needs	• Timing of restarting hormone replacement therapy • Managing complications associated with hormone replacement therapy such as venous thromboembolism, ischemic stroke • Timing of referral for gender-affirming surgery • Long-term screening for cancer

Without appropriate staff education, use of preferred pronouns for the patient, and shared decision making around hormonal and other therapies, delays in care may have negative outcomes for patients.

For transgender patients who develop end-stage heart failure, the following will need to be considered when evaluating them for advanced heart failure therapies (Figure 1). Because of a higher prevalence of HIV and hepatitis infection, it is integral to involve their infectious disease specialist. In addition, because of considerations of hormone replacement therapy, endocrinology input will also be important for their management. Because of the increased prevalence of depression and anxiety, comprehensive psychosocial assessment is crucial.

Lee et al[9] nicely demonstrate that when a patient does get listed for cardiac transplantation, it is important to have a discussion with the patient regarding their hormone replacement therapy and that the patient should understand that the dosage or formulation can be modified or even temporarily held during the intraoperative period. The interaction of hormone therapy and immunosuppressive medications is stressed, as is the need to closely monitor tacrolimus levels. They also address transgender-affirming surgery after cardiac transplantation, suggesting that such surgeries be deferred until after the first 6 to 12 months after transplantation until immunosuppression is at a lower and stable dose and when there is a lower risk of graft dysfunction.

There is no literature on the outcomes of advanced heart failure therapies in transgender patients. Along with cardiac transplantation, issues surrounding the use of durable mechanical assist devices for transgender patients are complex because of the higher thromboembolic risk and need for anticoagulation. Therefore, there is a need for a national registry for this population where we can share institutional experiences in the hope of creating a comprehensive database. This will help us attain long-term outcome data and aid us in better informing patients in the future. Managing advanced heart failure in transgender patients will continue to be challenging. The heart failure community will need to work together to spread awareness, develop strategies, and implement guidelines to improve overall outcomes for this patient population.

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