Impact of Ventricular Assist Device Support on Post-Transplant Mortality Searching for Reasons

Recently, Patlolla et al. (1) reported that ventricular assist devices (VADs) were associated with a significantly increased post-transplant mortality. The authors conclude that VAD implantation is not suitable for the treatment of stable patients awaiting heart transplantation. We would like to congratulate the authors on this study. However, in Germany, within the Eurotransplant International Foundation network (2), the reality of organ shortage and waiting times may lead to other conclusions.

In our center we look back on almost 250 VAD implantations of various intracorporeal and extracorporeal devices since 1993. We share the opinion that VAD implantation is the treatment of choice for patients admitted as an emergency case (3). As a special feature for the Eurotransplant situation, those patients recovering from VAD implantation are only accepted for high urgent status in case they develop serious problems associated with the device. Since the request for organs oversteps the number of organ donors by far, the waiting time for “regular patients” is often more than 2 years, regardless of whether a VAD is present or not. Therefore, in a number of European countries (e.g., Germany) most patients are transplanted in the high urgent status (4), which is currently assigned to more than 80% of all VAD patients in our center. Frankly, this means that a lot of VAD patients have to survive an emergency twice until a suitable organ is offered. This situation is certainly an important reason leading to increased mortality of heart transplantation after VAD implantation. However, a shortage of organs forces physicians to accept the increased risk associated with VADs.

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REFERENCES

We would like to thank Dr. Sindermann and colleagues for their interest in our paper (1). The decision to proceed with ventricular assist device (VAD) implantation in patients awaiting heart transplantation is complex. The factors that influence this decision for a given patient include his or her anticipated rate of clinical decline, estimated time to availability of a donor organ, and expected survival in the absence of mechanical circulatory support. Variations in organ allocation policies between different countries also may influence decisions regarding timing of VAD implantation and may lead to different outcomes after heart transplantation. Since our analysis is based on a U.S. patient population, the explanations for our findings are best drawn from practice patterns in the U.S. rather than in Europe.

In our analysis of United Network for Organ Sharing registry data, we were not able to demonstrate an improvement in post-transplant survival for patients bridged with a VAD. Our data, therefore, do not support the routine use of VAD therapy for stable United Network for Organ Sharing status 1 patients with the primary goal of improving post-transplant survival. At our institution, we limit the use of VADs as a bridge to transplant for patients who exhibit refractory symptoms and/or evidence of hemodynamic compromise despite the use of intravenous inotropic/vasodilator therapy.

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