



What is the optimal therapeutic protocol for using a durable left ventricular assist device in the near future of a developing country?

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Left ventricular assist device (LVAD) implantation as a bridge to candidacy or destination therapy for end-stage heart failure is desirable to improve the survival rate of diseased patients (1). The letter titled “Optimal therapeutic strategy using durable left ventricular assist device in Korea,” raises several impressive questions, which we will describe herein (2).

Our team, along with other Korean colleagues, had continued to challenge LVAD implantation in such diseased patients with relative contraindications. Thus, in September 2018, the Korean national insurance began to cover LVAD for both bridge-to-transplantation and destination therapy (1). As of December 2020, the total number of patients with durable LVAD implantation at our institution has exceeded 80. We believe that this experience may have led to improved clinical outcomes.

Despite encountering multiple successful cases, we have also experienced diverse short-term and long-term complications after LVAD. We perform echocardiographic and hemodynamic ramp tests with/without exercise on all patients before discharge. However, we believe that the most optimal revolutions per minute (rpm) may be the one during which the patient feels the best. We call it “the clinical ramp test,” which entails the adjustment of rpm according to the symptoms, signs, and dynamic pump parameters of the patient. Currently we are comparing the clinical ramp test with laboratory ramp tests. Bleeding complications in organs, including the gastrointestinal

system and the brain, are major concerns in our center. We also suspect that there may be genetic or racial differences between the Asian and Western population (3-5). We hope that HeartMate3 may reduce the incidence of bleeding complications.

Our team, along with other Korean colleagues, intends to establish a prospective multicenter registry with long-term follow-up in the near future.

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References

1. Lee JH, Park I, Lee H, et al. Use of durable left ventricular assist devices for high-risk patients: Korean experience before insurance coverage. *J Thorac Dis* 2020;12:7236-44.
2. Imamura T. Optimal therapeutic strategy using durable left ventricular assist device in Korea. *J Thorac Dis* 2021;13:2565-6.
3. Imamura T, Ono M, Kinugawa K, et al. Hemocompatibility-related adverse events following HeartMate II left ventricular assist device implantation between Japan and United States. *Medicina* 2020;56:126.
4. Shen AY, Yao JF, Brar SS, et al. Racial/ethnic differences in the risk of intracranial hemorrhage among patients with atrial fibrillation. *J Am Coll Cardiol* 2007;50:309-15.
5. Mehta RH, Cox M, Smith EE, et al. Race/ethnic differences in the risk of hemorrhagic complications among patients with ischemic stroke receiving thrombolytic therapy. *Stroke* 2014;45:2263-9.

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