

Impact of the pre-transplant circulatory supportive strategy on post-transplant outcome

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BACKGROUND:

The number of waitlisted patients requiring mechanical circulatory support (MCS) as a bridge to heart transplantation is increasing. We sought to investigate the post-transplant outcomes across the different bridge strategies.

METHODS and RESULTS:

A total of 251 heart transplants were retrospectively reviewed from database; 115 without MCS and 136 with MCS. Intra-aortic balloon pump (IABP), extracorporeal membrane oxygenation (ECMO), and ventricular assist devices (VAD) were the MCS that we investigated. The patients were divided to five groups: Group 1 (no MCS): n=115; Group 2 (IABP): n=15; Group 3 (ECMO): n=33; Group 4 (ECMO-VAD): double-bridge (n=59); Group 5 (VAD): n=29. Survival analysis demonstrated that the 3-year post-transplant survival rates were significantly different among the groups (Log-rank $p < 0.001$). There was no difference in survival between group 4(ECMO-VAD) and group 1(no MCS)1 ($p = 0.136$), or between group 4(ECMO-VAD) and group 5(VAD) ($p = 0.994$). Group 3(ECMO) had significantly inferior 3-year survival than group 4(ECMO-VAD) and group 5(VAD).

CONCLUSION:

Double bridge may not lead to worse mid-term results in patients who could receive a transplantation. Initial stabilization with ECMO for critical patients before implantation of VAD might be considered as a strategy for obtaining an optimal post-transplant outcome.

LVAD experience in Taiwan: What is the implication for Korea?

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Heart failure (HF) is the rapidly emerging disease recently not only due to the diagnostic tool but also the aging process and the advancement in medication. Heart transplantation always is the treatment of choice in this end stage HF. However, the limitation of the donor always is the bottle neck in this field. Mechanical circulatory support (MCS) now is becoming a reliable and sustainable treatment for surviving or optimizing patient in critical status. There are several options available in Taiwan for the advanced MCS, including IABP, ECMO and temporary and durable VAD. We started the reimbursement in ECMO since 2003, and the number of ECMO now is reaching 2000 to 2500 annually in Taiwan. It had become the most popular and famous MCS in Taiwan. We also started to import centrimag as temporary VAD since 2007 and it was reimbursed since 2010 with pre-reviewing before implantation. The durable VAD was imported to Taiwan since early 1990, and it was argued for a while to be reimbursed, but it was delayed because of the high cost. Centrimag was reimbursed without pre-reviewing before implantation since 2017. The durable VAD started to be reimbursed since 2018 OCT. Now HeartMate and HeartWare become a regular procedure in Taiwan. The policy had great impact and effect on the heart transplantation situation. The criteria is mainly followed the guideline of INTERMACS to meet the cost effectiveness. The proper selection in patients, timing and device will lead a good and reasonable outcome