Survival in critical cardiogenic shock (INTERMACS 1) patients with CentriMag extracorporeal mechanical circulatory support

Authors

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Objective

The survival of patients presenting with INTERMACS-1 critical cardiogenic shock remains poor and they often require multiple procedures to get through this illness. The aim of our study was to investigate the results of CentriMag short-term support as a bridge to decision in patients presenting with critical cardiogenic shock in our unit.

Method

We retrospectively analysed 46 consecutive patients from January 2005 to September 2015, who were treated with CentriMag device at our institution as bridge to decision. All combinations of short term circulatory support viz. peripheral VA ECMO, central VA ECMO, LVAD, BiVAD, ECMO converted to BiVAD were included in analysis. Patients requiring extracorporeal support for post cardiotomy shock and for primary graft dysfunction after heart transplantation were excluded.

Results

46 patients with mean age of 40 years (range 16 - 62), received CentriMag circulatory support for mean duration of 37(2 – 124) days. The overall survival to successful explant from CentriMag was 65.2%(n=30) and survival to hospital discharge was 56.5%(n=26). Of these, 4(8.7%) had cardiac recovery to explant, 16(34.8%) had heart transplantation and 10(21.7%) were bridged to long term left ventricular assist device. 16 (34.8%) patients died while on CentriMag mechanical circulatory support.

Conclusion

Our results demonstrate an excellent outcome with the use of CentriMag device in this seriously ill population. Nearly two thirds of patients survive to achieve successful explant from CentriMag and despite requiring multiple procedures over 56% of patients were discharged from hospital.
Figure 1:

**Intermacs 1 CentriMag patients**
**Survival curve**

Days from support

Fraction of patients surviving

All patients survival
Figure 2:

Intermacs 1 CentriMag patients
Survival curve

Excluding Transplanted patients