

11 Years Outcome of Left Ventricular Assist Device Implantation in patients with Dilated and Ischemic Cardiomyopathy. A Single-Center Experience

Hesham Ahmed MD^{1 2}, Mohammed Elayyar¹, Hassiba smail MD¹, Ashok Padukon¹, Jothidasan Anand jothidason¹, Ulrich Stock MD¹*

OBJECTIVE:

Long term Outcome of left ventricle assist device (LVAD) implantation depending on etiology is not well studied. This study aimed to compare the outcome of LVAD insertion in patients with dilated cardiomyopathy (DCM) and ischemic cardiomyopathy (ICM).

METHODS:

Consecutive 241 patients underwent LVAD at our hospital between 2006 and 2017 due to advanced heart failure caused by ICM and DCM were retrospectively analyzed and reviewed.

RESULTS:

50 patients with ICM and 191 patients with DCM underwent LVAD insertion. ICM patients were significantly older than DCM (55.1 ± 8.7 vs 42.7 ± 13.3 years; $p < 0.001$). BSA was significantly higher in ICM than DCM (2.0 ± 0.18 vs 1.9 ± 0.23 m²; $p < 0.006$). Right atrial pressure which was significantly higher in DCM than ICM (15.2 ± 6.8 vs 11.5 ± 7.3 ; $p < 0.04$). Pre-operative mechanical circulatory support was significantly higher in ICM than DCM (50% vs 30.9; $p < 0.01$). Post-operative RV dysfunction was higher in DCM than ICM (16.8 % vs 10.0 %) and

ECMO was needed in 4.2 % and 4.0% of patients with DCM and ICM respectively. Post-operative respiratory failure and arrhythmias were significant higher in ICM than DCM (46 % vs 32.0% and 32.0% vs 15.7; $p < 0.001$ and $p < 0.009$ respectively).

Hospital stay was higher in ICM (70.8 ± 65.6 vs 51.4 ± 46.1 days). LVAD duration was significantly higher in DCM (835.4 ± 761.3 vs 290.9 ± 385.5 days; $p < 0.001$). RIP on LVAD was 37.2 % and 32.0% in DCM and ICM respectively. Explant recovery was 11.0% vs 0%; $p < 0.02$ in DCM and ICM respectively. Device exchange was significantly higher in ICM 18.0 % vs 7.9 %, $p < 0.04$. There were no significant difference regarding post-operative stroke, drive line infection and GIT bleeding. 46 patients with DCM and 10 patients with IDM underwent heart transplant post LVAD insertion with 8.6% and 17.3 % mortality in 30 and 90 days follow up in DCM and no mortality in patients with IDM in 90 days follow up.

CONCLUSION:

The etiology of heart failure affect postoperative outcomes, as well as long term outcome regarding survival, recovery and heart transplant post LVAD.

1-Heart and Lung Transplant and Ventricular Assist Device Department, Harefield Hospital, London, UK

2-Cardiothoracic Surgery Department, Faculty of medicine, Menoufia University, Egypt