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FIFTEEN YEAR EXPERIENCE OF BRIDGING TO HEART TRANSPLANTATION WITH VENTRICULAR ASSIST DEVICES

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Background An increasing number of end-stage heart failure patients are being bridged to heart transplant (BTT) with ventricular assist devices (VAD). This is due to a severe shortage of donor hearts. Surgery for VAD explant and heart transplant can be technically demanding. We reviewed a single-centre experience of BTT over a 15 year period with long term follow up.

Methods This is a retrospective study of 529 consecutive patients who underwent heart transplantation between 1 April 1997 and 31 July 2012. 466 were standard orthotopic heart transplants (OHT) without prior VAD support and 63 were BTT. The primary outcome was actuarial post-transplant survival. Other outcomes included blood lost within first 24 h, return to theatre, intubation time, renal failure, gastro-intestinal complication, intensive care and total length of hospitalisation.

Results The mean age of BTT patients was younger (OHT 49 yo, BTT 41 yo, $p<0.01$). There was a slightly lower 30-day survival in the BTT group (OHT 92%; BTT 85%) but there were no differences in 1-year, 5-years and 10-years survival between groups (OHT 84%, 75%, 61%; BTT 82%, 74%, 58%, log-rank test $p=0.47$). The BTT group had a higher incidence of complications post-transplant: transient respiratory failure with a prolonged ventilation time (hours) (20 ± 35 vs 11 ± 54 , $p<0.01$), pancreatitis (5% vs 0.04%), blood loss in the first 24 h (mls.) (840 ± 2000 vs 580 ± 860 , $p<0.01$) and ITU stay (days) (5 ± 10.8 vs 3 ± 6.6 , $p<0.01$). There was no difference between groups regarding total hospital length of stay (22.6 ± 20 vs 22 ± 17 , $p=0.76$).

Conclusions The use of ventricular assist devices as bridge to transplantation provides excellent posttransplant survival when compared to standard heart transplants. However, surgery for VAD explant and heart transplant can be demanding and is accompanied by higher perioperative morbidity without increasing length of stay.

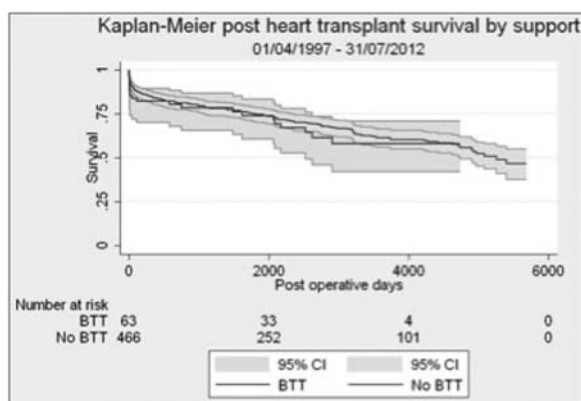


Figure 1