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Is there a mortality weekend effect in cardiac transplantation?

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Topic(s):
Heart Transplantation

Citation:

BACKGROUND

Cardiac transplant surgeries can be complicated, prolonged, resource-heavy procedures that may be affected by the timing of the surgery.

PURPOSE

We analyzed the UNOS database to evaluate for a "weekend effect" on mortality comparing transplant surgeries that occurred on a weekday versus during the weekend.

METHODS

We conducted a retrospective, cohort analysis of the UNOS Organ Registry of all heart-only transplant patients from 1987 to 2018 comparing mortality rates between weekday transplants (WDT) versus weekend transplants (WET). The exclusion criteria included age <10, patients lost to follow-up, multi-organ transplants, and re-do heart transplants. A multivariate Cox proportional hazard regression analysis (adjusted for age, sex, diabetes, race, ischemic time, need for dialysis, on life support, wait time, and HLA mismatch) was performed. Survival was censored at 12 years.

RESULTS

55,670 patients received heart transplants between 1987-2018 per the UNOS Organ Registry, of which 40,504 patients received a transplant on a weekday and 15,166 patients received a transplant during the weekend. Overall, the mortality for WDT versus WET were 52% and 52% (p=0.98), respectively. The breakdown of cardiovascular and non-cardiovascular mortality were similar for both WDT (15.8%, 36.2%, respectively) and WET (15.8%, 36.2%). Furthermore, there was no significant difference in cause of death between WDT vs WET, looking specifically at graft failure, rejection, infection, cardiovascular, malignancy, multi-organ failure, and other.

CONCLUSIONS

Based on this retrospective, cohort analysis of the UNOS Organ Registry there was no mortality "weekend effect" observed for cardiac transplantation surgeries.
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log rank, p=0.896

Survival post Heart Transplant by Day Performed

Follow Up (Months)

Weekdays
Weekend

0.00 0.25 0.50 0.75 1.00
0 12 24 36 48 60 72 84 96 108 120 132 144