# [Adult Congenital Heart Disease: Current Early Expectations after Cardiac Transplantation.](https://www.ncbi.nlm.nih.gov/pubmed/31408642)

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**Take-Home Points:**

* **This large study of the UNOS database compared early outcomes after cardiac transplantation for patients with and without adult congenital heart disease.**
* Post-transplant outcomes for ACHD patients have improved over the past decade despite ACHD patients having relatively more risk factors than non-ACHD patients.
* ACHD patients with few risk factors had comparable survival up to 5 years as non-ACHD patients.
* Further long-term follow-up may determine whether post-transplant survival in ACHD patients surpasses that of nACHD patients given the relatively younger age of ACHD at the time of transplantation.



***Commentary from Dr. Jeremy Herrmann (Indianapolis), section editor of Congenital Heart Surgery Journal Watch:*** The authors sampled the United Network of Organ Sharing (UNOS) database for patients >17 years old with or without adult congenital heart disease (ACHD) who underwent cardiac transplantation between 2000-2018 and primarily evaluated 1-year post-transplant survival. A possible era effect was analyzed by grouping patients from 2000-2008 (early) and 2009-2018 (late) then comparing the late era with the non-adult congenital heart disease (nACHD) group.

Over 35,000 nACHD patients and over 1,100 ACHD patients were included in the analyses. It is unclear whether ACHD patients who underwent heart-liver transplants were included, but this is typically a very small proportion of heart transplant patients. Late era patients were slightly older (32 versus 37 years), slightly heavier (67.1 versus 71.3 kg), more often sensitized (23% versus 38%), and had longer waitlist times (95 versus 149 days). However, the late era group exhibited better 1-year and overall survival. Compared to nACHD patients, ACHD patients were younger (37 versus 57 years), more likely to be female (38% versus 26%), had fewer ventricular assist devices (14% versus 46%), greater incidence of sensitization 38% versus 29%), and longer waitlist times (149 versus 104 days). Multivariable analysis revealed risk factors for 1-year mortality in ACHD patients included decreased renal function, body mass index >25 kg/m2, total bilirubin >1.2 mg/dL, and graft ischemic time.

When comparing ACHD patients with nACHD patients, ACHD patients who had less than two risk factors had similar 1-year survival as nACHD patients. Moreover, ACHD patients with preserved renal and liver function had similar overall survival as all nACHD patients and possibly trending superior survival beyond 5 years post-transplant (Figure).

These findings demonstrate improved ACHD transplant outcomes over the past decade, which is even more remarkable especially considering the greater association of risk factors during that interval. Unfortunately, granular details such as inotrope use and aspects of other medical management are lacking in this large study. However, it is also interesting that ACHD patients (who are relatively younger) may have better long-term outcomes compared to the older nACHD patients. Hopefully, this finding may help instruct future revisions of UNOS listing criteria for ACHD patients. Finally, the authors postulate that wider utilitization of VADs in ACHD patients may help to mitigate preoperative risk factors and improve post-transplant outcomes.