Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

13.2 years (12% females) with dilated (64%) and ischemic (24%) cardiomyopathy as an aetiology of heart failure in the majority. 6 (24%) patients had long term LVAD while 2(8%) were supported on short-term mechanical support per-operatively.9 (36%) patients required mechanical circulatory support postoperatively with ECMO and IABP and 20 (80%) required continuous renal replacement therapy. The mean ICU stay was 17.8±16.5 days and the mean hospital stay was 45±40 days. Postoperative survival at 30-days was 88%.

Conclusion: Donor hearts procured following donation after circulatory death were transplanted with acceptable short-term survival especially given the high proportion of preoperative mechanical circulatory support and urgency of transplantation in our cohort. 'Direct procurement and perfusion' method of procurement in DCD offers an opportunity to assess the donor heart for the suitability of transplantation.

(396)

Effect of COVID-19 Infection on HeartCare, Data from the SHORE Multicenter Registry

M. Kamath,[1] M. Deng,[1] N. Raval,[2] M. Zhou,[3] W. Tian,[3] P. Mammen,[4] A. B. Van Bakel,[5] P. Shah,[6] and S.R. Patel.[7] [1]Ronald Reagan UCLA Medical Center, Los Angeles, CA; [2]Advent Health, Orlando, FL; [3]CareDx, Brisbane, CA; [4]UT Southwestern Medical Center, Dallas, TX; [5]Medical University of South Carolina, Charleston, SC; [6]Inova Heart and Vascular Institute, Falls Church, VA; and the [7]Montefiore Medical Center, New York, NY.

Purpose: Transplant patients represent a cohort in which COVID-19 (C19) may stimulate an unpredictable clinical course. The aim of this study was to evaluate the impact of C19 infection on AlloMap gene expression profiling (AM) and AlloSure donor derived cell free DNA (AS) results in patients post heart transplant.

Methods: The Surveillance Using HeartCare Outcomes Registry (SHORE) is a multicenter study for post heart transplant patients followed with AM/AS for 5 years. Patients enrolled were analyzed based on C19 . AM/AS were evaluated before, at the time and following infection. Both individual trends and the differences between the median AS and AS levels were studied. Nonparametric tests were used to assess categorical and longitudinal variables.

Results: 21 patients developed C19 infection; 16 (76%) were males, median age 50 years. There was no significant difference in AM or AS in stable patients (no rejection, CAV, graft dysfunction, dnDSA) compared to the first AM/AS profile in the C19+ patients, Figure 1. Event rates in C19+ patients are described in Table 1. 12 C19+ patients had 28 biopsies, 2 of which were within 30 days of C19. 1 patient had ACR 2R and another AMR 1; all other biopsies were <ACR 2R/AMR1. Additionally, 5 patients developed dnDSA and 7 patients developed subsequent CMV viremia, a median of 67 and 158 days after C19 diagnosis, respectively. No CAV, graft dysfunction, or deaths were reported in this small group of C19+ patients.

Conclusion: The presence of C19 infection is not associated with a significant increase in AS or AM scores, suggesting AS and AM are not confounded by C19 and can be used safely as non-invasive surveillance in this population.

Figure 1. AlloSure Left, AlloMap Right

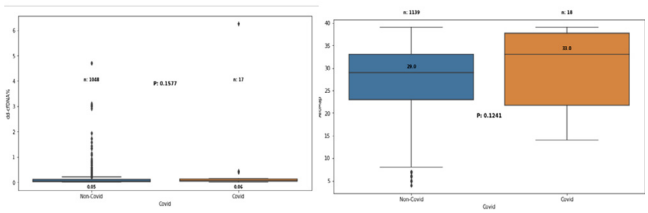

Table 1. Clinical Events for COVID-19+ Patients

Event	N	Median time between COVID+ & Event (days, IQR)
Rejection	3	88 (69.25-121.75)
Biopsy		76 (12-125)
Grade 0R	6	
Grade 1R	5	
Grade 2R	1	
AMR 0	8	
AMR 1	1	
AMR 2	0	
dnDSA	5	67 (63-162)
CAV Diagnosis	0	
CMV Viremia	7	158 (138.75 – 189.5)
Graft Dysfunction	0	
Death	0	

(397)

Outcomes of COVID-19 in an Advanced Heart Failure Practice: A Single Center Study

L.C. Cunningham, S. George, D. Nelson, D.A. Horstmanshof, J.W. Long and A.M. El Banayosy. Advanced Cardiac Care, INTEGRIS Baptist Medical Center, Oklahoma City, OK.

Purpose: Patients with heart failure (HF) carry an increased risk of mortality and morbidity with COVID-19. The objective of this study is to compare the outcomes of HF (stage C or D), Left Ventricular Assist Device (LVAD) or Heart Transplant (HTx) patients who were diagnosed with COVID-19.

Methods: Out of 2635 patients followed in our program (HF=2234, LVAD=167, HTx=234), 96 patients diagnosed with COVID-19 infection between March 2020 to January 2021 were included in this study. Hospital length of stay (LOS), requirement for mechanical ventilation, and mortality rate were compared. Kaplan-Meier analysis was used to compare survival.

Results: The distribution of COVID among the 96 patients was: HTx = 15.8%, LVAD = 9.6% and HF = 1.9%. Table 1 outlines the clinical characteristics and outcomes of the 3 cohorts. A total of 49 patients were hospitalized: 18 (41.9%) HF, 8 (50%) LVAD, and 23 (62.2%) HTx. Of the hospitalized patients, 5 (27.8%) required ICU care in the HF, 2 (25%) LVAD, and 6 (26.1%) HTx groups. The median ICU LOS was significantly higher in HTx (24 days, p=0.04) when compared to HF (10 days) group. HTx patients had the highest 180-day mortality, followed by LVAD, and then HF patients (18.9%, 12.5% and 11.6%, respectively). All deaths occurred within 50 days from diagnosis. Among LVAD patients, COPD was the highest predictor of mortality (69% prevalence).

Conclusion: This report is among the first to describe the impact of COVID-19 on a comprehensive advanced heart failure (HF) practice. Our data highlights the risks of morbidity and mortality faced by HF and immunocompromised patients with COVID-19 infection. A mortality rate of 19% with HTx patients acquiring COVID is ominous (even if better than reported rates of 25%). Likewise, though not as high, mortality rates for COVID infected advanced HF and LVAD patients of 12% each represent substantial risk. Protecting these patients with all possible preventative and therapeutic options is an essential imperative.

Table 1

	HF (n=43)	LVAD (n=16)	HTx (n=37)	*P*-value HF vs LVAD	*P*-value HF vs HTx	*P*-value LVAD vs HTx
Co-MORBIDITIES						
HTN	n=30 (70%)	n=11 (69%)	n=32 (87%)	1.00[a]	0.11[a]	0.15[a]
DM	23 (54%)	12 (75%)	15 (41%)	0.23[a]	0.27[a]	**0.04**[a]
CKD	18 (42%)	7 (44%)	29 (78%)	1.00[a]	**0.001**[a]	**0.02**[a]
COPD	3 (7%)	11 (69%)	3 (8%)	**<0.001**[a]	1.00[a]	**<0.001**[a]
OUTCOMES						
No. hospitalized	18	8	23	-	-	-
Required ICU	5 (27.8%)	2 (25%)	6 (26%)	0.64[a]	1.00[a]	0.66[a]
Intubated	4 (22%)	3 (43%)	6 (26%)	0.64[a]	1.00[a]	0.66[a]
ICU LOS – days	12 ± 12 (10)	22 ± 4 (22)	26 ± 10 (24)	0.25[b]	**0.04**[b]	0.50[b]
Mortality	5 (11.6%)	2 (12.5%)	7 (18.9%)	0.98[c]	0.44[c]	0.60[c]

Data presented as no. (%) or mean ± SD (median)

P-values derived from [a]Fisher's Exact Test, [b]Mann-Whitney U test or [c]Log-rank test