

# Palliative Care Utilization is Associated with High Readmission Risk in Cardiogenic Shock

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## BACKGROUND

Cardiogenic shock (CS) has high mortality and involves complex decision-making. Palliative care consultation (PCC) clarifies goals of care, aids in symptom management, and provides psychosocial support. PCC has demonstrated superior patient-reported quality of life outcomes and lower rehospitalization rates than usual care alone in heart failure populations (1,2). In CS, PCC is associated with lower total hospital costs despite similar hospital stay length to usual care alone (3). However, PCC's effect on CS outcomes is not well described.

## METHODS

- A retrospective cross-sectional observational analysis was performed on patients who met the hemodynamic criteria for CS or required pharmacological or mechanical circulatory support.
- Patients were grouped based on the presence or absence of PCC.
- Fisher's exact test was used to compare clinical and demographic variables as well as outcomes, including readmissions and mortality.
- VAD and transplant recipients were excluded since PCC is required by the Joint Commission.

## RESULTS

- No difference between PCC and usual care groups in prior shock, HF, atrial fibrillation or flutter, PCI, CABG, valve disease, CKD, or COPD; or out-of-hospital cardiac arrest.
- PCC positively associated with prior ICD and longer hospitalizations
- PCC negatively associated with prior MI and mechanical ventilation
- No association with pharmacologic or mechanical circulatory support use, CMO transition, mortality, PCI, or in-hospital cardiac arrest rates.
- Of discharged patients at 1-year follow-up, PCC was significantly associated with cardiac rehospitalization but not morbidity.
- Of discharged patients at 30-day follow-up, PCC was not associated with cardiac rehospitalization or morbidity.

## CONCLUSION

PCC is underutilized in CS given the high mortality. Patients with longer hospital stay and prior ICD were more likely to receive PCC. PCC was also more likely to be utilized for patients perceived at high risk for readmission. Differences were not detected between groups for some variables, including comfort-measures-only transition or mortality, possibly due to small sample size or confounders.

Palliative care is underutilized in cardiogenic shock.

Palliative care involvement was associated with longer hospitalizations, prior ICD, and higher cardiac readmission rates.



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## Comparison of Outcomes in Cardiogenic Shock: Palliative Care vs Usual Care Alone

	Received PCC (n=85)	Usual Care Alone (n=107)	Fisher's exact p-value
<b>Male</b>	39 (61.9%)	69 (71.1%)	0.22
<b>Mean age (years)</b>	63.8±13.1	63.9±13.5	0.97
<b>Race: White</b>	51 (80.9%)	78 (80.4%)	0.35
<b>Race: Black</b>	9 (14.3%)	9 (9.3%)	-
<b>Race: Other or Unspecified</b>	3 (4.8%)	10 (10.3%)	-
<b>Index Hospitalization</b>			
<b>OHCA</b>	12 (19.1%)	28 (28.9%)	0.16
<b>Length of hospitalization (days)</b>	18.4 ± 14.8	10.8 ± 9.2	<b>&lt;0.0001*</b>
<b>Received AMSD prior to transfer to study site</b>	7 (11.1%)	16 (16.5%)	0.76
<b>Received AMSD during study site admission</b>	12 (19.1%)	23 (23.7%)	0.49
<b>Requiring inotropes or vasopressors at any point</b>	33 (52.4%)	37 (38.1%)	0.89
<b>In-hospital mortality</b>	21 (33.3%)	37 (38.1%)	0.54
<b>In-hospital cardiac arrest</b>	15 (23.8%)	24 (24.7%)	0.89
<b>CMO status change</b>	25 (39.7%)	29 (29.9%)	0.20
<b>Mechanical ventilation used</b>	27 (42.9%)	58 (59.8%)	<b>0.036*</b>

## 30-day follow-up

<b>Alive</b>	28 (66.7%)	49 (81.7%)	0.25
<b>Cardiac Rehospitalization</b>	8 (13.3%)	7 (16.7%)	0.35
<b>1 year follow-up</b>			
<b>Alive</b>	18 (42.9%)	32 (53.3%)	0.93
<b>Cardiac Rehospitalization</b>	17 (40.5%)	14 (23.3%)	<b>0.0021*</b>

Abbreviations: PCC (Palliative care consultation); OHCA (out-of-hospital cardiac arrest prior to admission); AMSD (acute mechanical support devices); CMO (comfort-measures-only). Values are either (n (%)) or (mean ± standard deviation).

\*=statistically significant below  $\alpha=0.05$ .