Invasive hemodynamic (HD) assessment with a pulmonary artery catheter (PAC) is often used to guide management of patients (pts) with cardiogenic shock (CS).

We aimed to assess prognostic associations and relationships to end-organ dysfunction of presenting HD parameters in CS.

The Critical Care Cardiology Trials Network (CCCTN) is an investigator-led collaborative research network of advanced CICUs in N. America (coordinated by TIMI Study Group).

Pts with CS (2018-2022) who underwent invasive HD assessment within 24 hours of CICU admission were included.

Associations of HD parameters with in-hospital mortality assessed using logistic regression; associations with presenting lactate assessed using LS means regression; associations with presenting HD parameters with in-hospital mortality assessed using logistic regression; associations with hospital mortality assessed using logistic regression.

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Table 1. Distribution of selected hemodynamic parameters.

Table 2. Associations of HD parameters with in-hospital mortality.

Table 3. Associations of HD parameters with hospital mortality.

Table 4. Associations of HD parameters with in-hospital mortality in subgroups of pts with AMI-CS and HF-CS.

RESULTS

Figure 1. Strength of associations between presenting HD parameters and in-hospital mortality. Parameters ordered based on absolute value of t statistic from univariable LS means regression models.

Figure 2. Adjusted associations with in-hospital mortality, Model 1 = unadjusted; Model 2 = adjusted for VIS; Model 3 = excluding pts with MCS at time of invasive HD assessment and adjusting for VIS.

Figure 3. Strength of associations between presenting HD parameters and presenting serum lactate. Parameters ordered based on absolute value of t statistic from univariable LS means regression models.

Figure 4. Associations of HD parameters with in-hospital mortality in subgroups of pts with AMI-CS and HF-CS.

CONCLUSIONS

In a contemporary CS population, predominantly on hemodynamic support, presenting HD parameters reflecting decreased systemic arterial tone and RV dysfunction were associated with adverse outcomes and systemic malperfusion (even when controlling for intensity of hemodynamic support), but cardiac index and CPO were not.

These data support valuable HD profiling in cardiogenic shock.

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