**VASOACTIVE AGENT EXPOSURE PRIOR TO ACUTE MECHANICAL CIRCULATORY SUPPORT FOR CARDIOGENIC SHOCK IS ASSOCIATED WITH END ORGAN DYSFUNCTION AND MORTALITY**

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**Objective:** Prior to initiating acute mechanical circulatory support (AMCS) for cardiogenic shock (CS), vasoactive agents are used for hemodynamic support to avert multi-system dysfunction or hemo-metabolic shock. Our goal was to define the relationship between vasoactive agents and clinical outcomes.

**Method:** We retrospectively analyzed clinical data and vasoactive agent use prior to AMCS for CS for pts (n=140) between 2012-2016 who received VA-ECMO (n=59) or Impella (n=81).

**Results:** The most common first line agents were norepinephrine, dobutamine and milrinone. Compared to VA-ECMO, Impella pts more frequently received dobutamine (70 vs. 31%, all comparisons p<0.05) and less frequently received phenylephrine (23 vs. 50%) or norepinephrine (63 vs. 89%). Survivors were treated with fewer vasoactive agents (1.3±1.1 vs 2.2±1.3; A). Compared to 0-1 agents, use of ≥2 agents correlated with a higher Cr (2.1±1.3 vs. 1.4±0.6 mg/dl) and higher AST (1265±3185 vs. 331±1034 IU/L). Use of ≥2 agents correlated with a higher RA/PCWP ratio (0.78±0.25 vs. 0.63±0.23) and lower pulmonary artery pulsatility index (1.23±0.78 vs. 1.89±1.8). ROC analysis revealed an AUC of 0.838 for in-hospital mortality with an optimal cutoff of ≥2 agents (B).

**Conclusion:**Vasoactive agent usage prior to AMCS for CS is associated with impaired end-organ function, right heart dysfunction and increased mortality. The number of vasoactive agents serves as a simple metric of CS severity to identify patients at risk of clinical deterioration.

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