Low Lung Allocation Score Predicts Poor Waitlist Outcomes for Patients on Extracorporeal Membrane Oxygenation as a Bridge to Lung Transplantation

David Furfaro MD, Meghan Aversa MD, Lori Shah MD, Hilary Robbins MD, Michaela Anderson MD, Joshua R Sonnett MD, Frank D'Ovidio MD PhD, Bryan P Stanifer MD, Hanyoung Kim MSN, Joseph Costa DHSc PA-C, Selim Arcasoy MD MPH, Luke Benvenuto MD

Columbia University Medical Center / New York Presbyterian Hospital

All Authors Have No Conflicts of Interest or Financial Interests to Disclose

Hypothesis

- Hypothesis: Low LAS score for patients bridging to transplant on ECMO negatively impacts outcomes

Methods

- UNOS Database
- 5/4/5 – 12/31/18
- LAS score within two days of ECMO initiation
- Primary Outcomes:
  - Transplantation
  - Death or Removal from the Waitlist
- Secondary Outcome:
  - Post-Transplant Survival
- Statistics
  - LAS as continuous variable, and categorical high LAS (top 50%) vs low LAS (bottom 50%)
  - Adjusted competing risk regression model for relationship between LAS and waitlist outcomes
  - Adjusted cox regression for post-transplant survival

Results

954 patients bridged on ECMO

594 (62.2%) transplanted

329 (34.4%) died or delisted

Mean LAS in low cohort = 78.2 ± 15.6

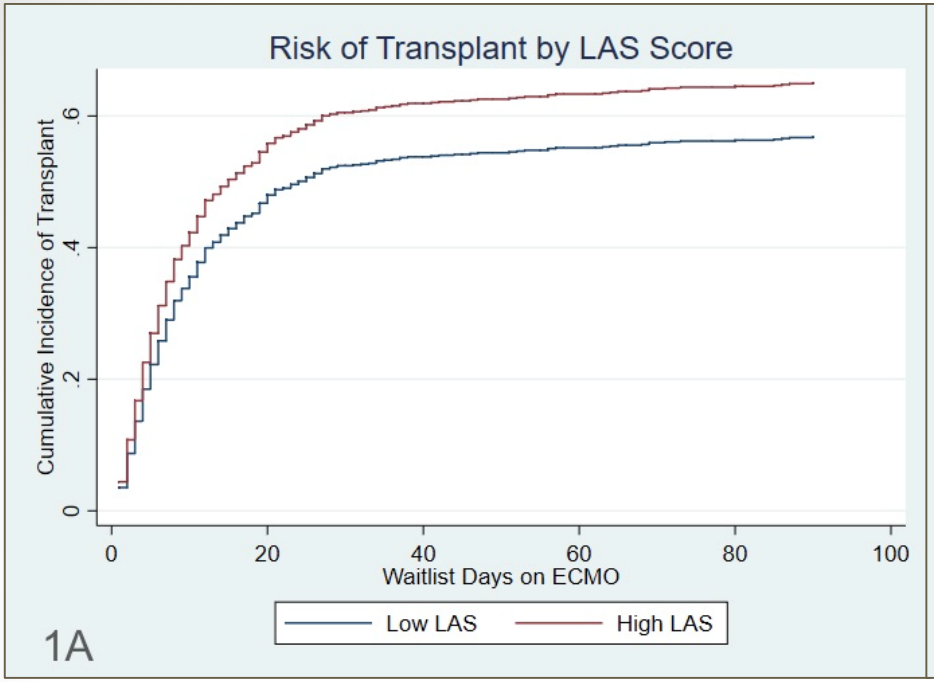
Mean LAS in high cohort = 90.7 ± 1.4

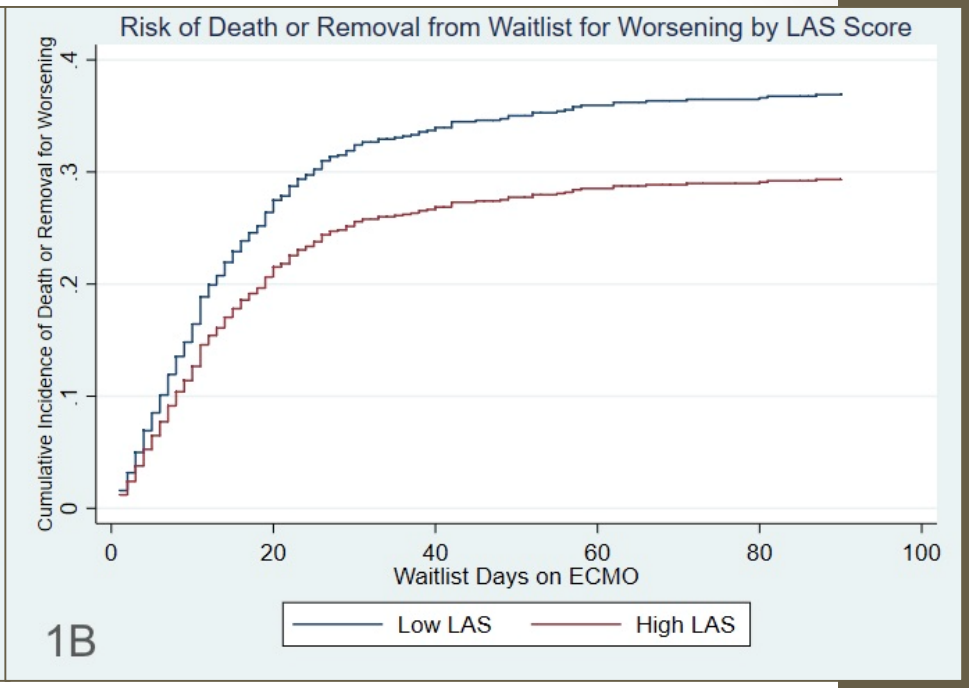
> Low LAS cohort had decreased rate of transplant (SHR 0.80, 95% CI 0.67-0.96)

> Low LAS cohort had increased risk of death / delisting (SHR 1.34, 95% CI 1.05-1.70)

> For every 10 point increase in LAS, risk of transplant increased by 14% ($p<0.01$) and risk death / delisting decreased by 11% ($p=0.02$)

> There was no different in post-transplant survival between low and high LAS cohorts (HR 0.82, 95% CI 0.60-1.12)





Conclusion

Among patients on ECMO as bridge to transplant, a lower LAS was associated with decreased risk of transplant, and increased risk of death or delisting without different in post-transplant survival