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East vs West: How a Level I Trauma Center Splits the Difference in Resuscitative Thoracotomy
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INTRODUCTION: Resuscitative thoracotomy (RT) is performed in severe trauma cases as a final lifesaving effort. Prominent, yet differing, practice management guidelines exist from both the Eastern Association for the Surgery of Trauma (EAST) and the Western Trauma Association (WEST). This study evaluates all RTs performed from 2012 to 2019 at an urban Level I trauma center for management guideline indication and subsequent outcomes.

METHODS: Our trauma registry was queried to identify RT cases from 2012 to 2019. Data were collected on patient demographics, prehospital presentation, CPR requirement, and resuscitation provided. Survival to the operating room, ICU, and overall were recorded. Information was compared with regard to EAST and WEST criteria.

RESULTS: 87 patients who underwent RTs were included. WEST guidelines were met in 78 of 87 (89.7%) of cases, comparatively EAST guidelines were met in every case. Within the EAST criteria, conditional and strong recommendations were met in 70 of 87 (80.4%) and 17 of 87 (19.5%) of cases, respectively. In 9 cases (10.3%), indications were discordant, each meeting conditional indication by EAST and no indication by WEST. All patients that survived to operating room, ICU admission, and overall met EAST criteria.

CONCLUSIONS: All RTs performed at our Level I trauma center met indications provided by EAST criteria. WEST guidelines were not applicable in 9 salvaging encounters due to protracted duration of CPR before proceeding to RT. More patients that survived to OR and ICU admission met EAST guidelines suggesting an improved potential for patient survivability. As increased data are derived, management guidelines will likely be re-established for optimized patient outcomes.

Evaluation of Scarcity Allocation Scores for Venovenous Extracorporeal Membrane Oxygenation
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INTRODUCTION: Venovenous extracorporeal membrane oxygenation (V-V ECMO) improves survival in patients with ARDS. Due to equipment shortages throughout the pandemic, systems for allocation have been proposed, but not tested. In this study, we evaluate 3 systems of allocation for V-V ECMO in both pre-COVID-19 and COVID-19 patients with ARDS.

METHODS: We retrospectively evaluated 3 systems of ECMO allocation (MN, MDH, and OHI) across 4 ECMO Centers of Excellence. Logistic regression was used to assess the relationship between the scores and in-hospital and 30-day mortality. Cut points for priority groups were evaluated by maximizing the sum of sensitivity and specificity.

RESULTS: Of 124 patients, 38% were treated for COVID-19 ARDS. The median age was 48 years and 73% were male. The in-hospital mortality rate was 38% and increased to 42% at 30 days. For each additional point in the MN score, the odds ratio for mortality was 1.13 (p = 0.02) for in-hospital and 1.15 (p = 0.015) at 30 days. OHI and MDH scores were not significant for in-hospital or 30-day mortality. COVID-19 status did not change the findings significantly. For the MN score, a threshold between the low and medium priority groups was found to be 7 and the threshold between medium and high priority groups was found to be 9 (p = 0.05) (Fig. 1).

CONCLUSIONS: Higher MN score is associated with increased mortality. Proposed priority groups can be used to identify patients that would more greatly benefit from V-V ECMO allocation in times of increasing scarcity.

Extracorporeal Membrane Oxygenation for Pediatric Patients with Malignancy: Outcomes and Trends in the Last Decade
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INTRODUCTION: Extracorporeal membrane oxygenation (ECMO) has been selectively used for severe respiratory and circulatory failure. Although incurable malignancy is a contraindication, the utility of ECMO in the pediatric oncology population has been debated, given the wide spectrum of malignant diseases, treatment response rates, and outcomes.