



MEMC 2025

Mediterranean Emergency Medicine Congress

Hosted by:

American Academy of Emergency Medicine
Sемmelweis University, Budapest, Hungary

14 - 17 August 2025

www.emcongress.org

#MEMC2025

➤ **Category:** Cardiovascular

ID: 81 - Pediatric self-inflating bag versus adult bag during CPR in intubated adult cardiac arrest patients

Authors: Kowsthubha B G¹ (*Presenting*), Manu Ayyan¹, Anandhi D², Vivekanandan M¹

Affiliations:

¹Jawaharlal Institute of Postgraduate medical education and research

²Private Practice

Abstract:

Background: Excessive ventilation during cardiopulmonary resuscitation (CPR) may compromise hemodynamics by elevating intrathoracic pressure and reducing venous return. Standard adult self-inflating bags often deliver tidal volumes exceeding American Heart Association (AHA) and European Resuscitation Council (ERC) guidelines. We hypothesized that employing a pediatric self-inflating bag during extended CPR in intubated adult cardiac arrest patients would yield tidal volumes more in line with guideline recommendations.

Method: In this prospective, blinded, non-randomized controlled study conducted from October 2022 to October 2023 at a tertiary academic emergency department in Puducherry, India, ventilation was administered during conventional CPR using an adult self-inflating bag (1600 mL). For patients meeting termination-of-resuscitation criteria, extended CPR was delivered using a pediatric self-inflating bag (750 mL). Ventilatory metrics were recorded via a CITREX H3 Gas Flow Analyzer connected between the endotracheal tube and the bag. The primary objective was to compare the inspired (VTi) and expired (VTe) tidal volumes delivered by the two devices, while the secondary objective was to determine the tidal volume required to achieve visible chest rise.

Results: Of 224 patients assessed, 132 were enrolled; after excluding 2 patients who achieved the return of spontaneous circulation, 130 patients were included in the final analysis. The adult self-inflating bag delivered a mean VTi of 8.8 ± 2.4 mL/kg and VTe of 7.8 ± 2.2 mL/kg, whereas the pediatric bag delivered a mean VTi of 6.4 ± 1.7 mL/kg and VTe of 5.8 ± 1.8 mL/kg. These differences were statistically significant (VTi mean difference: 2.18 mL/kg, 95% CI: 1.6–2.7; VTe mean difference: 1.95 mL/kg, 95% CI: 1.69–2.20). Additionally, the tidal volume necessary for visible chest rise was 193 ± 44 mL.

Conclusion: Using a pediatric self-inflating bag produces tidal volumes more consistent with AHA and ERC guidelines, potentially reducing the risks associated with hyperventilation during adult cardiac arrest resuscitation.

➤ **Category:** Abdominal / GI

ID: 219 - Investigation of the Relationship Between Shock Index, Scores in Patients with Upper GI Bleeding

Authors: Bahadir Taslidere (*Presenting*), Julide Gurbuz, Elif Betul Balci, Emre Kalkan, Basar Cander

Affiliations:

Bezmialem Vakif University

Abstract:

Aim: This study aims to investigate the relationship between the shock index and variables such as age, sex, Glasgow-Blatchford Score (GBS), Rockall Score, and mortality in patients with upper gastrointestinal bleeding.

Methods: The study evaluated in-hospital mortality and discharge status in upper gastrointestinal bleeding patients by comparing the Glasgow-Blatchford and Rockall scores with the shock index.

Conclusion: This study examined the relationship between shock index (SI), Glasgow-Blatchford Score (GBS), and Rockall Score in upper gastrointestinal bleeding (UGIB) patients. The mean age was similar between low (57.08 ± 20.20 years) and high SI groups (54.75 ± 18.67 years, $p = 0.482$), but females had a significantly higher mean age than males ($p < 0.001$). Patients with a high SI had a significantly higher mean GBS (9.26 ± 3.50) compared to those with a low SI (6.29 ± 3.47 , $p < 0.001$), indicating a strong correlation between GBS and shock severity. Similarly, the mean Rockall Score was higher in the high SI group (4.42 ± 2.11) than in the low SI group (3.30 ± 2.20 , $p = 0.003$). Mortality rates were 27% in the low SI group and 31.2% in the high SI group ($p = 0.588$), suggesting that while a high SI reflects hemodynamic instability, it may not independently predict mortality. Thus, SI alone is insufficient for mortality prediction and should be used alongside GBS and Rockall Score for better risk assessment in UGIB patients. These findings highlight the importance of comprehensive scoring systems for clinical decision-making.

➤ **Category:** Emergency Medical Services & Pre-hospital Care

ID: 286 - The possibility of extracorporeal membrane oxygenation in cardiac arrest (both IHCA and OHCA)

Authors: Péter Lukács (*Presenting*)

Affiliations:

Semmelweis University

Abstract:

The place of extracorporeal membrane oxygenation (ECMO) in resuscitatory guidelines has become unquestionable, but the exact time to start the treatment and appropriate patient selection remains unclear. The aim of this study is to find correlations between pre-ECMO parameters and subsequent survival indicators of patients requiring ECMO treatment, which could help intra-/prehospital providers to more easily identify potential ECMO candidates among their patients.

This research is a single-center retrospective observational study. The subjects of the research are patients who required ECMO support between January 2019 and November 2024. A total of 101 patients were included in the research (n=101).

The median age was 49 years (IQR 37.5-62.5). 65.6% were male and 34.4% were female (65 vs. 36). The median duration of ECMO support was 6 days (IQR 6.5-8.5). Overall survival was 29.3% (101 vs. 29). Out of the 101 patients, 63 underwent CPR before starting ECMO, 25 cases were OHCA and 38 were IHCA. ROSC occurred in 18 cases. Cannulation was performed during continuous CPR in 44 cases, with a median low-flow time of 30 minutes (IQR 20-60). No CPR was performed in 39 cases.

The group of patients who underwent ECMO with previous continuous CPR had a significantly better survival in the IHCA group ($p < .001$). An achieved ROSC during CPR was not associated with significantly better survival in comparison with the group that underwent full CPR ($p = 0.066$), but survival was significantly higher compared to the group of patients who were cannulated during continuous CPR ($p = 0.01$).

The key point of ECMO treatment is the selection of the right patients and the initiation of treatment at the right time. The inclusion/exclusion criteria of current guidelines can provide adequate assistance in this matter.