



JULY NEWSLETTER

STUDY 1: A MULTINATIONAL RANDOMIZED TRIAL OF MEGA-DOSE ESOMEPRAZOLE AS ANTI-INFLAMMATORY AGENT IN SEPSIS

Authors: Giacomo Monti, Sonia Carta, Yuki Kotani, Andrea Bruni, Maiya Konkayeva, Fabio Guarracino, et al.; PPI-SEPSIS Study Group

Background: Proton pump inhibitors (PPIs) exhibit immunomodulatory effects, but their clinical anti-inflammatory benefits in sepsis are uncertain.

Study Objective: Investigate whether mega-dose esomeprazole reduces organ dysfunction in sepsis or septic shock.

Study Design: Multinational, randomized, double-blind, placebo-controlled trial in 17 ICUs or EDs across 3 countries.

Intervention: Esomeprazole 1024 mg vs. placebo over 72 hours.

Results:

- 307 patients enrolled (148 esomeprazole, 159 placebo), median age 71; 54% had septic shock.
- Median SOFA score at randomization: 7.
- No difference in mean daily SOFA score over 10 days (median 5 in both groups; $p > 0.99$).
- No significant differences in ICU-free days, antibiotics-free days, or mortality.
- In vitro, esomeprazole did not modify pro-inflammatory monocyte activation.

STUDY 2: DIASTOLIC BLOOD PRESSURES AND END TIDAL CARBON DIOXIDES DURING CARDIOPULMONARY RESUSCITATIONS AND THEIR ASSOCIATION WITH OUTCOMES IN ADULT OUT-OF-HOSPITAL CARDIAC ARREST PATIENTS

Authors: June-Sung Kim, Youn-Jung Kim, Seok In Hong, Sang-Min Kim, Bora Chae, Seung Mok Ryoo, Won Young Kim

Background: The prognostic utility of DBP and ETCO_2 during CPR is not well defined.

Study Objective: Determine associations between DBP/ ETCO_2 and sustained return of spontaneous circulation (ROSC) in OHCA patients.

Study Design: Preplanned secondary analysis of the AMCPR trial.

Intervention: Analysis of initial, follow-up, and delta DBP/ ETCO_2 values within CPR registry.

Results:

- 264 patients (69.3% male, median age 74); 38.3% achieved sustained ROSC.
- Higher DBP values (initial, follow-up, and delta) were associated with ROSC.
- Follow-up DBP >26.5 mmHg: aOR 10.03 (95% CI 3.64–27.66, $p < 0.01$).
- Delta DBP >6.5 mmHg: aOR 4.83 (95% CI 1.90–12.26, $p < 0.01$).
- ETCO_2 levels were similar between groups except for follow-up values.

STUDY 3: THE UTILITY OF INITIAL LACTATE FOR THE QUICK SEQUENTIAL ORGAN FAILURE ASSESSMENT (LQSOFA) FOR EMERGENCY SEPTIC PATIENTS

Authors: Saqer M Althunayyan, Ahmed Abdullah Aledeny, Mohammed A Malabarey, et al.

Background: LqSOFA incorporates lactate into qSOFA to enhance sepsis risk stratification.

Study Objective: Evaluate LqSOFA's predictive performance for ICU admission, vasopressor use, and 72-hour mortality vs. qSOFA.

Study Design: Retrospective cohort observational study at 4 EDs in Riyadh, Saudi Arabia (May 2022 – April 2023).

Intervention: Calculation of initial LqSOFA and qSOFA scores for all patients; outcomes assessed via sensitivity, specificity, and AUROC.

Results:

- 1274 patients included; 59.2% male, mean age 68.8.
- LqSOFA had higher sensitivity than qSOFA for:
 - ICU admission: 48% vs. 30%
 - Vasopressor need: 68% vs. 50%
 - Mortality: 76% vs. 71%
- qSOFA had higher specificity for the same outcomes.
- AUROC was higher for LqSOFA in all outcomes; statistically significant only for mortality ($p < 0.05$).

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