

ICU TRIALS OF 2017

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part four

a compilation of some of the major trials of 2017

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TRIAL	WHAT DID IT SAY?
Bystander Efforts and 1-Year Outcomes in Out-of-Hospital Cardiac Arrest	Bystander CPR and defibrillation were associated with risks of brain damage or nursing home admission and of death from any cause that were significantly lower than those associated with no bystander resuscitation.
Effect of early tranexamic acid administration on mortality, hysterectomy, and other morbidities in women with post-partum haemorrhage (WOMAN): an international, randomised, double-blind, placebo-controlled trial	Tranexamic acid reduces death due to bleeding in women with post-partum haemorrhage with no adverse effects. When used as a treatment for postpartum haemorrhage, tranexamic acid should be given as soon as possible after bleeding onset.
Reversal of trauma-induced coagulopathy using first-line coagulation factor concentrates or fresh frozen plasma (RETIC): a single-centre, parallel-group, open-label, randomised trial	Our results underline the importance of early and effective fibrinogen supplementation for severe clotting failure in multiple trauma. The available sample size in our study appears sufficient to make some conclusions that first-line CFC is superior to FFP.
Safety and Efficacy of Antiviral Therapy for Prevention of Cytomegalovirus Reactivation in Immunocompetent Critically Ill Patients	Antiviral prophylaxis with valacyclovir or low-dose valganciclovir suppresses CMV reactivation in patients with critical illness. However, given the higher mortality, a large-scale trial would be needed to determine the clinical efficacy and safety of CMV suppression.
Stress-Dose Corticosteroid Versus Placebo in Neonatal Cardiac Operations: A Randomized Controlled Trial	The SDC regimen for 5 days postoperatively in neonates was safe and did not cause suppression of the hypothalamic-pituitary-adrenal axis. Furthermore, the open heart operation per se did not lead to adrenal insufficiency in neonates.
Association of Postoperative High-Sensitivity Troponin Levels With Myocardial Injury and 30-Day Mortality Among Patients Undergoing Noncardiac Surgery	Among patients undergoing noncardiac surgery, peak postoperative hsTnT during the first 3 days after surgery was significantly associated with 30-day mortality. Elevated postoperative hsTnT without an ischemic feature was also associated with 30-day mortality.
Immunoglobulin G for patients with necrotising soft tissue infection (INSTINCT)	In ICU patients with NSTI, we observed no apparent effects of adjuvant IVIG on self-reported physical functioning at 6 months.
Effect of Ularitide on Cardiovascular Mortality in Acute Heart Failure	In patients with acute heart failure, ularitide exerted favorable physiological effects (without affecting cardiac troponin levels), but short-term treatment did not affect a clinical composite end point or reduce long-term cardiovascular mortality.
Intermittent noninvasive ventilation after extubation in patients with chronic respiratory disorders: a multicenter randomized controlled trial (VHYPER)	Early NIV performed following a sequential protocol for the first 48 h after extubation decreased the risk of respiratory failure in patients with chronic respiratory disorders. Reintubation and mortality did not differ between NIV and conventional oxygen therapy.
Effects of restricting perioperative use of intravenous chloride on kidney injury in patients undergoing cardiac surgery: the LICRA pragmatic controlled clinical trial	A perioperative fluid strategy to restrict IV chloride administration was not associated with an altered incidence of AKI or other metrics of renal injury in adult patients undergoing cardiac surgery.
Levosimendan for Hemodynamic Support after Cardiac Surgery	In patients who required perioperative hemodynamic support after cardiac surgery, low-dose levosimendan in addition to standard care did not result in lower 30-day mortality than placebo.
Effect of Intensive vs Moderate Alveolar Recruitment Strategies Added to Lung-Protective Ventilation on Postoperative Pulmonary Complications	Among patients with hypoxemia after cardiac surgery, the use of an intensive vs a moderate alveolar recruitment strategy resulted in less severe pulmonary complications while in the hospital.
Effect of Dexmedetomidine on Mortality and Ventilator-Free Days in Patients Requiring Mechanical Ventilation With Sepsis	Among patients requiring mechanical ventilation, the use of dexmedetomidine compared with no dexmedetomidine did not result in statistically significant improvement in mortality or ventilator-free days. However, the study may have been underpowered for mortality, and additional research may be needed to evaluate this further.
Early, Goal-Directed Therapy for Septic Shock – A Patient-Level Meta-Analysis	In this meta-analysis of individual patient data, EGDT did not result in better outcomes than usual care and was associated with higher hospitalization costs across a broad range of patient and hospital characteristics.
Liberal Versus Restrictive Transfusion Strategy in Critically Ill Oncologic Patients: The Transfusion Requirements in Critically Ill Oncologic Patients Randomized Controlled Trial	We observed a survival trend favoring a liberal transfusion strategy in patients with septic shock when compared with the restrictive strategy. These results went in the opposite direction of the a priori hypothesis and of other trials in the field and need to be confirmed.
Sodium Bicarbonate Versus Sodium Chloride for Preventing Contrast-Associated Acute Kidney Injury in Critically Ill Patients: A Randomized Controlled Trial	Among ICU patients with stable renal function, the benefit of using sodium bicarbonate rather than isotonic sodium chloride for preventing contrast-associated acute kidney injury is marginal, if any.
A randomized placebo-controlled phase II study of a Pseudomonas vaccine in ventilated ICU patients	This phase II study has shown that IC43 vaccination of ventilated ICU patients produced a significant immunogenic effect. <i>P. aeruginosa</i> infection rates did not differ significantly between groups. In the absence of any difference in immune response following administration of 100 µg IC43 without adjuvant compared with 200 µg IC43 with adjuvant. There were no safety or mortality concerns.
Video Laryngoscopy vs Direct Laryngoscopy on Successful First-Pass Orotracheal Intubation Among ICU Patients	Among patients in the ICU requiring intubation, video laryngoscopy compared with direct laryngoscopy did not improve first-pass oro-tracheal intubation rates and was associated with higher rates of severe life-threatening complications. Further studies are needed to assess the comparative effectiveness of these 2 strategies in different clinical settings and among operators with diverse skill levels.
Association Between Tracheal Intubation During Adult In-Hospital Cardiac Arrest and Survival	Among adult patients with in-hospital cardiac arrest, initiation of tracheal intubation within any given minute during the first 15 minutes of resuscitation, compared with no intubation during that minute, was associated with decreased survival to hospital discharge. Although the study design does not eliminate the potential for confounding by indication, these findings do not support early tracheal intubation for adult in-hospital cardiac arrest.

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