Emergency Medicine Bulletin May 2019

Articles

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A new clinical score for cranial computed tomography in emergency department non-trauma patients: Definition and first validation.
[A score for risk stratification of patients with suspect of intra-cranial pathology could reduce CT request in ED, avoiding a significant number of CCT while minimizing the risk of missing positive results.]
Freely available online

Advanced airway management during adult cardiac arrest: A systematic review.
Granfeldt A. Resuscitation 2019;139:133-143.
[We identified a large number of studies related to advanced airway management in adult cardiac arrest. Three recently published, large randomized trials in out-of-hospital cardiac arrest will help to inform future guidelines. Trials of advanced airway management during in-hospital cardiac arrest are lacking.]
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An Organizational-Level Program of Intervention for AKI: A Pragmatic Stepped Wedge Cluster Randomized Trial.
[A complex, hospital-wide intervention to reduce harm associated with AKI did not reduce 30-day AKI mortality but did result in reductions in hospital length of stay, accompanied by improvements in quality of care. An increase in AKI incidence likely reflected improved recognition.]

Cardiac Arrest and Subsequent Hospitalization-Induced Posttraumatic Stress Is Associated With 1-Year Risk of Major Adverse Cardiovascular Events and All-Cause Mortality.
[To compare 1-year all-cause mortality and major adverse cardiovascular events in cardiac arrest survivors with and without posttraumatic stress disorder symptomatology at hospital discharge.]

Guideline-Based Clinical Assessment Versus Procalcitonin-Guided Antibiotic Use in Pneumonia: A Pragmatic Randomized Trial.
Montassier E. Annals of Emergency Medicine 2019;.-.
[Guideline-based serial clinical assessment did not reduce antibiotic exposure compared with procalcitonin-guided care among ED patients with community-acquired pneumonia.]
The strategies were similar in terms of duration of antibiotic use and clinical outcomes.

**Hypothermia outcome prediction after extracorporeal life support for hypothermic cardiac arrest patients: An external validation of the HOPE score.**
Pasquier M. *Resuscitation* 2019;--.
[This study provides the first external validation of the HOPE score reaching good calibration and excellent discrimination. Clinically, the prediction of the HOPE score remains accurate in the validation sample. The HOPE score may replace serum potassium in the future as the triage tool when considering ECLS rewarming of a hypothermic cardiac arrest victim.]

**Plasma interleukin-6 concentration for the diagnosis of sepsis in critically ill adults.**
Molano Franco D. *Cochrane Database of Systematic Reviews* 2019;4:CD011811.
[Even though sepsis is one of the leading causes of mortality in critically ill patients it still lacks an accurate diagnostic test. Determining the accuracy of interleukin-6 (IL-6) concentrations in plasma, which is proposed as a new biomarker for the diagnosis of sepsis, might be helpful to provide adequate and timely management of critically ill patients, and thus reduce the morbidity and mortality associated with this condition.]

**Prehospital stroke scales as screening tools for early identification of stroke and transient ischemic attack.**
Zhelev Z. *Cochrane Database of Systematic Reviews* 2019;4:CD011427.
[Rapid and accurate detection of stroke by paramedics or other emergency clinicians at the time of first contact is crucial for timely initiation of appropriate treatment. Several stroke recognition scales have been developed to support the initial triage. However, their accuracy remains uncertain and there is no agreement which of the scales perform better.]

**Quality of Life and 1-Year Survival in Patients With Early Septic Shock: Long-Term Follow-Up of the Australasian Resuscitation in Sepsis Evaluation Trial.**
[To examine long-term survival and quality of life of patients with early septic shock.]

**Subdissociative-dose Ketamine Is Effective for Treating Acute Exacerbations of Chronic Pain.**
Lumanauw DD. *Academic Emergency Medicine* 2019;--.
[Ketamine infusions at both 0.5 and 0.25 mg/kg over 20 minutes were effective in treating acute exacerbations of chronic pain but resulted in more adverse effects compared to placebo. Ketamine did not demonstrate longer-term pain control over the next 24 to 48 hours.]

**The Restrictive IV Fluid Trial in Severe Sepsis and Septic Shock (RIFTS): A Randomized Pilot Study.**
Corl KA. *Critical Care Medicine* 2019; doi: 10.1097/CCM.0000000000003779.
[This pilot study demonstrates that a restrictive resuscitation strategy can successfully reduce the amount of IV fluid administered to patients with severe sepsis and septic shock compared with usual care. Although limited by the sample size, we observed no increase in mortality, organ failure, or adverse events. These findings further support that a restrictive IV
fluid strategy should be explored in a larger multicenter trial.

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**Treatment of first-time traumatic anterior shoulder dislocation: the UK TASH-D cohort study.**
Rees JL. *Health Technology Assessment* 2019;23(18):1-104.
[This study found that few NHS patients had surgery after their first shoulder dislocation, and further research would be needed to tell if surgery prevents further dislocations.]

**Vasopressors during adult cardiac arrest: A systematic review and meta-analysis.**
Holmberg MJ. *Resuscitation* 2019;139:106-121.
[Controlled trial data suggest that epinephrine improves ROSC, survival to hospital discharge, and 3-month survival in out-of-hospital cardiac arrest. The improvement in short-term outcomes appeared more pronounced for non-shockable rhythms. Differences in long-term neurological outcome did not reach statistical significance, although there was a signal toward improved outcomes. Controlled trial data indicated no benefit from vasopressin with or without epinephrine compared to epinephrine only]

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**Guidelines**

The following new guidance has recently been published:

**Stroke and pulmonary embolism.**
UpToDate;2019.
[Studies have suggested an increased risk of stroke among patients with acute pulmonary embolism (PE), thought to be due to paradoxical embolism via a patent foramen ovale (PFO).]

**Stroke and transient ischaemic attack in over 16s: diagnosis and initial management.**
National Institute for Health and Care Excellence (NICE);2019.
https://www.nice.org.uk/guidance/ng128
[This guideline covers interventions in the acute stage of a stroke or transient ischaemic attack (TIA). It offers the best clinical advice on the diagnosis and acute management of stroke and TIA in the 48 hours after onset of symptoms.]

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