Top 10 Can't Miss Articles From 2019: Clinical Bottom-Lines

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1. **van der Pol et al. Pregnancy-Adapted YEARS Algorithm for Diagnosis of Suspected Pulmonary Embolism. *NEJM***

- Modified YEARS Algorithm: d-dimer cut-off + YEARS Criteria (clinical signs DVT, hemoptysis, PE most likely diagnosis)
- ER Physicians should consider using the modified YEARS algorithm to work-up suspected PE in pregnant patients. Endorsed by 2019 European Guidelines; however, most local obstetricians follow 2014 SOGC Guidelines.

2. **April et al. Emergency Department Intubation Success With Succinylcholine Versus Rocuronium: A National Emergency Airway Registry Study. *Ann Emerg Med*.**

- In this large observational series, which represents the *best available data*, there was *no* association between paralytic choice and first-pass intubation success *or* adverse events.

3. **Casey et al. Bag-Mask Ventilation during Tracheal Intubation of Critically Ill Adults. *NEJM*.**

- High-quality bagging may not lead to increased risk of aspiration, and improved oxygenation. However, all measures were in place to ensure bagging technique minimized the risk of aspiration.

4. **Kuppermann et al (PECARN Group). A Clinical Prediction Rule to Identify Febrile Infants 60 Days and Younger at Low Risk for Serious Bacterial Infections. *JAMA Pediatr***

- 3 variables for low-risk
    1) Negative urinalysis (negative leukocytes, negative nitrites, <5 WBC/hpf)
    2) Absolute neutrophil count <4090/µL
    3) Procalcitonin ≤1.71ng/mL
- Rule identifies infants 28-60d at low risk for serious bacterial illness but requires external validation. Does not answer need for lumbar puncture if positive urine. Neonates ≤28d should still receive full septic work-up.

5. **Hernandez et al. The ANDROMEDA-SHOCK Randomized Clinical Trial. *JAMA.***

- Among patients with septic shock, a resuscitation strategy targeting normalization of capillary refill time, compared with a strategy targeting serum lactate levels, did not reduce all-cause 28-day mortality.
- However, the results are consistent with an 8.5% absolute risk reduction, but the trial was *not* powered to find that "small" a difference. More studies are needed to identify whether a smaller difference than the study was looking for may exist.

6. **CRASH-3 group. Effects of tranexamic acid on death, disability, vascular occlusive events and other morbidities in patients with acute traumatic brain injury (CRASH-3): a randomized, placebo-controlled trial. *Lancet***
- Consider giving Tranexamic acid to non-moribund patients with head injury within 3h. It's a cheap intervention, with low risk of harm!

7. **Joseph et al. Nationwide Analysis of Resuscitative Endovascular Balloon Occlusion of the Aorta in Civilian Trauma. *JAMA Surgery.***
- REBOA associated with increased mortality in large non-randomized study. Evidence does not support wide adoption at this time. RCT needed and in progress.

8. **Laureano-Phillips et al. HEART Score Risk Stratification of Low-Risk Chest Pain Patients in the Emergency Department: A Systematic Review and Meta-Analysis. *Annals Emerg Med***
- Strong up-to-date evidence supports use of HEART Score to identify low-risk ED chest pain patients. Per 2018 ACEP guidelines: HEART 0-3 + negative troponin at 0 & 3 hrs acceptably rules out 30d MACE.

9. **Watanabe et al. The STOPDAPT-2 Randomized Clinical Trial. *The Lancet*.**
- Among PCI patients who received 2nd or 3rd generation drug-eluting stents, 1 month of DAPT followed by clopidogrel monotherapy resulted in better patient outcomes.

10. **Lemkes et al. Coronary Angiography after Cardiac Arrest without ST-segment Elevation (COACT Trial). *NEJM*.**
- Among patients who were resuscitated from OHCA with an initial shockable rhythm with no signs of STEMI, immediate angiography was not better than delayed angiography.