SEPSIS SESSION 2

Chairs: Dr. Bettina von Dessauer, Chile, Dr Suchitra Ranjit, India

Dr David Inwald: *Early goal directed therapy, what about the children*
Key messages

1. Following the seminal paper by Rivers et al in 2001, Early Goal Directed Therapy (EGDT) became a standard of care in adults with septic shock. Support for EGDT in children came from a single South American RCT involving 102 children which had a mortality of 40% in the control arm.
2. Three recent large scale RCTs in adults failed to demonstrate benefit of EGDT. A recent systematic review concluded that "EGDT is not superior to usual care for ED patients with septic shock".
3. This presentation discusses this evidence, looking both at EGDT and at other goals which have been promoted in children.
   Take home Further research is required to establish goals for therapy in paediatric septic shock.

2. Dr. Suchitra Ranjit: *Shock is no longer a useful term and needs to be explained and related to patient care*
Key messages

1. Correcting deranged hemodynamics in ped septic shock may be challenging as physical signs are imperfect and therapy of aspect may worsen another. After the initial fluid bolus, further volume should be "earned". Physical signs of Cold vs Warm shock can be misleading.
2. In order to fully explain the hemodynamics and tailor therapy, children with unresolved shock need may need multi-monitoring.
3. Initial results are presented of a pilot study using early norepinephrine after limited fluid bolus In patients with vasodilatory shock, where fluid requiremnts were markedly reduced with improved lactae and urine output.
   Take home: Unresolved shock needs careful multi-monitoring to explain hemodynamics and tailor therapy

3. Dr. Kusum Menon: *Corticosteroids and sepsis: its 2016 and we still have no answer*
Key messages
1. Steroid responsive shock exists as a clinical entity
2. No consistent method yet to identify patients with this condition
3. Empiric steroids for all patients with septic shock not justified by the literature
Take home
Dont´use them by routine?

4.Dr. Jerry Zimmerman: *Sepsis outcomes beyond 28 day mortality*
Key messages
1. Although sepsis remains a major contributor to childhood mortality worldwide, risk of pediatric sepsis-associated mortality has decreased markedly over the last several decades
2. Adult and pediatric data confirm long term risk for re-hospitalization and late mortality
3. Functional status and health-related quality of life are validated, clinically meaningful, patient-centered outcomes that have been documented to significantly deteriorate among patients surviving sepsis.
Take home
Ultimately maximizing health-related quality of life may be the most important goal in medicine.

4. **Dr Adrienne Randolph:** *How would I conduct the next sepsis trials*

Key messages: Novel trial design strategies should be used to optimize power and feasibility.
1. Why most prior sepsis trials in children have failed.
2. Approaches to optimize trial power: Bayesian trials, pragmatic trials and pre-specified meta-analyses.
3. Can non-randomized trials reach definitive conclusions?
Take home
Designing efficient, definitive studies to guide in pediatric sepsis requires expanding outside the RCT box.