

Sepsis Session I Summary

The panel presented an overall need for improved probabilistic definitions (Dr. Peters) and endotype biomarkers (Dr Wong) to improve prognostication and risk stratification for designing clinical trials directed at pathogen specific mechanisms (eg Staphylococcus and ADAM 10; Dr. Wardenberg), and host response (eg plasma exchange and Thrombocytopenia Associated MOF or steroids for septic shock, Dr. Wong; central cannulation ECMO for refractory shock, Dr. Maclaren)

The WFPICCS resource specific three element guidelines were also presented (Dr. Carcillo).

Group A (non-industrialized child mortality > 30/1,000) recommendations include:

- 1) Potable water and nutrition with vitamin A and Zinc
- 2) Access to oral and IM antibiotics and anti-malarials to administered by village health care worker

Group B (non-industrialized child mortality < 30/1,000) recommendations include:

Dengue Belt

- 1) Intravenous fluid bolus and infusion with Dextrose and Sodium at maintenance rate targeting keeping Hct at 30 (hemoconcentration as marker of hypovolemia), D-stick > 50
- 2) High flow/nasal CPAP bubble oxygen
- 3) Intravenous antibiotics

Malaria Belt (Viral Hemorrhagic Fever Outbreaks such as Ebola treat as above with Dengue)

- 1) Intravenous fluid with Dextrose and Sodium at maintenance rate, slow blood transfusion to keep Hgb > 5 g/dL
- 2) High flow/nasal CPAP bubble oxygen
- 3) Intravenous antibiotics and anti-malarials

Group C + D (industrialized developing and developed world)

Emergency Department

- 1) Trigger recognition tool with clinician available to assess all positive triggers within 15 minutes
- 2) Within 1 hour of clinician assessment start High Flow oxygen, administer IV antibiotics, give appropriate IV fluid bolus, and start peripheral IV epinephrine infusion for refractory shock.

3) Mechanical ventilation if needed.

PICU

1) Maintain perfusion pressure (normal MAP-CVP or MAP-CVP for age) and ScVO₂ > 70%

2) Assure source control with appropriate antibiotic (proper sensitivity and level) and nidus / abscess removal

3) Daily review of fluid balance, organ function, and support therapies (eg keep MV effective tidal volume 6-8 cc/kg)